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RIIO-2 draft determinations: ESO specific response

Incentives framework

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

We welcome inclusion of electricity market reform (EMR) into the wider ESO outputs for the incentive scheme in terms of efficiencies in business reporting. However, this does not, by itself, offer any wider benefits for the Capacity Market (CM) or Contracts for Difference (CfD) participants. This benefit can be achieved in conjunction with the wider review of the ringfence between the EMR Delivery Body and the rest of the ESO. This is discussed in our response to ESOQ2.

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

We do not consider that it is necessary or beneficial to maintain the ringfence between the EMR Delivery Body and the wider ESO in its current form. Much has changed since the ringfence for EMR was put in place in 2013 and there are benefits from adjusting the ringfence from the start of the RIIO-2 period. We would welcome the opportunity to work with Ofgem ahead of the final determinations to consider what changes could be put in place ready for the start of RIIO-2.

Why the EMR was set up with ringfence in 2013

The EMR Delivery Body function was created through the Energy Act 2013. At that time, the Department for Energy and Climate Change (DECC) (now the Department for Business, Energy and Industrial Strategy (BEIS)) and Ofgem realised the synergies between the EMR Delivery Body role and wider system operation. This was a key reason for giving the EMR role to National Grid ESO. There were concerns, however, around potential conflicts of interest with the Transmission Owner or other competitive businesses in the National Grid Group. That is why the current EMR ringfence was put in place at that time.

What has changed since the start of EMR in 2013

Much has changed since 2013. First and foremost, legal separation of the ESO mitigates against potential conflicts of interest with other National Grid businesses. At present, EMR has an additional ringfence within the legally separate ESO. This inhibits greater efficiencies within the ESO, such as data sharing with the EMR Modelling Team and other ESO analysis. Compliance processes and controls have matured within both EMR and the wider ESO, reducing further the need for a separate EMR ringfence. There are new areas of work that would also benefit from greater integration such as the single ESO markets platform or the delivery of foreign participation under the Clean Energy Package.

What our stakeholders and customers say

Overall, the perceptions and expectations of our customers and stakeholders have changed since the start of EMR. Customers do not generally distinguish between the EMR Delivery Body and the rest of ESO. Through the Five Year Review of EMR and RIIO-2 feedback, Ofgem have received broadly positive feedback from industry on integrating EMR within the wider ESO framework. We are conscious that some stakeholders have expressed a small number of reservations, with some stating the importance of the ESO having clear accountability for its EMR performance. We take these views seriously and consider that they can be addressed without the need to retain the current EMR ringfence.

We also note that Ofgem recognise that legal separation of the ESO provides an opportunity for integration of EMR within the wider ESO.

Ofgem's proposals in the draft determinations

Under the proposals in the draft determinations, EMR would be integrated in the ESO allowances and incentives framework, but the current EMR ringfence would be kept in place for now. While this facilitates a single regulatory process, the retention of the EMR ringfence in the current form would mean that no additional benefits of integration into the ESO are realised. For example, we would not take advantage of better data sharing or a more unified 'one stop shop' customer service.

Our proposed way forward

In addition to EMR being integrated in the ESO allowances and incentives framework, we are of the view that there are benefits in addressing the EMR ringfence from the start of the RIIO-2 period to harness the opportunities arising from legal separation. Specific controls may be retained around certain EMR functions (such as the auctions process), but other EMR-specific requirements could be removed or loosened, for example, to enable data sharing for modelling and other ESO analysis within the ESO legal separation ringfence. It would also be an opportunity to review what information genuinely needs to be confidential to EMR functions and what specific compliance controls are really required for EMR, now that processes have matured and the legal separation ringfence is in place.

This option realises efficiencies from greater integration, including a single regulatory process, a single view of ESO performance and priorities and other synergies such as better customer management.

We propose to work with Ofgem ahead of the final determination to identify what changes could be implemented from the start of the RIIO-2 period and what other adjustments may require implementation at a later stage.

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

We support the proposal to include system restoration costs within the wider balancing costs metric. We are pleased that our procurement activities to date have given Ofgem confidence that inclusion of these costs in the wider metric is appropriate, rather than having a separate disallowance scheme.

We would like to work with Ofgem to consider how restoration costs should be included within the balancing costs metric. For example, the new restoration standard is likely to obligate faster restoration times which could impact costs, but the precise details of this standard are not yet known. We will provide a transparent narrative to explain the costs we have incurred and would anticipate that the evaluative nature of the incentive scheme will allow the factors affecting our costs to be taken into account.

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

Whilst outcomes under an ex-post evaluative scheme are not certain, a level of predictability on the link between delivered outcomes and reward is necessary for any incentive framework to be effective. During 2019/20, we believed that we had achieved a better shared understanding of performance expectations under the scheme. However, this was undermined by the process and outcome at the end of the year. Significant changes will be required in the RIIO-2 period to restore confidence in the scheme.

Ofgem's intention to set up-front performance expectations in RIIO-2 is welcome. Under today's scheme it has been impossible for us to determine, ex ante, what specific behaviours would merit an incentive reward, with no shared understanding of baseline performance. This inherent subjectivity has led to a situation where it is difficult for Ofgem and the Performance Panel to justify deviating from the mid-point of the incentive range, resulting in a weak incentive. A scheme which is felt to be subjective and unpredictable will not motivate the ESO to deliver additional value for consumers.

Ofgem's intention to grade our two-year delivery schedule for each business plan period at the draft determinations stage, and give clear and specific feedback to indicate how we should improve this delivery schedule ahead of final determinations, would also be an improvement on today's arrangements. Ofgem's intention to set a final grading for the delivery schedule at the final determinations stage would also be helpful, giving us a clear view of the level of ambition within our plans.

We also note that many of our deliverables are transformational, first-of-a-kind activities. It is therefore difficult to commit to firm timelines for these activities, as we may wish to adapt our plans to account for new learnings or stakeholder feedback. It is therefore important that the scheme does not unduly penalise us for changes to deliverables, as this would discourage us from pursuing ambitious plans in a way which adapts to changing circumstances and maximises consumer benefit. The design of the scheme means that in some cases, specific milestones are defined several years ahead of time, making it difficult to give a reliable view of dates.

Although the upfront clarity of performance expectations is welcome, it is still important that Ofgem can make use of the evaluative nature of the scheme to take into account circumstances where activities were not delivered on schedule due to reasons outside of our control. It is vital to recognise that much of our work is

developmental and agile in approach, reflecting the rapidly-changing needs of the market and stakeholders. As a result, we anticipate within-period changes to expected delivery dates for some types of deliverables. Where there are changes from the originally-planned delivery dates, we will communicate this clearly to our stakeholders, and we support the description in Table 9 of Ofgem's ESO draft determinations document which states that the "Plan Delivery" criterion should take into account where deviation from the plan was in the consumer interest or outside our control.

We should ultimately be measured on the output delivered, rather than smaller milestones. In cases where tangible outputs are not planned within the first two years, the assessment of plan delivery should consider the extent of progress towards the eventual outputs.

We agree that on-track delivery of an ambitious plan deserves a positive reward. We intend to deliver an ambitious set of activities during the RII0-2 period, and welcome the recognition that an ambitious plan is difficult to outperform. We would therefore expect that the grading of the delivery schedule is the default score that would be given for on-track delivery of the key components set out within this schedule.

ESQ5. 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?

We do not agree that the financial reward or penalty should be determined every two years. Today's incentive scheme already suffers from a weak and unpredictable relationship between performance and reward that undermines the objective of the scheme to drive ambitious, proactive behaviours from the ESO.

It would exacerbate this weakness of the scheme to determine the financial reward or penalty less frequently than today. This is because a two-year assessment period would further weaken the link between our performance and our incentive reward, making the incentive scheme a less sharp tool for driving the desired behaviours from the ESO. We believe that Ofgem and the Performance Panel should make a decision on the incentive reward at the end of each year. We think that the decision at the end of the first year should relate to at least 40 per cent of the overall two-year total, and should only be altered at the end of the two-year period in exceptional circumstances.

If a decision is not made at the end of each year, there is a risk that performance across the whole incentive period is not properly taken into account. Events which happen towards the end of the scheme may be given undue weight, and achievements at the beginning of the scheme may be forgotten. If performance is not transparently measured throughout the scheme, there is a risk that the economic or political climate at the time of determining the outcome make it difficult to justify using the full incentive range, further weakening the link between performance and reward.

The success of the incentive scheme depends on Ofgem and the Performance Panel committing to give clear feedback to the ESO at regular intervals, and ensuring that the ESO, Ofgem and the Performance Panel have a shared understanding of how the ESO is performing against the evaluation criteria. This should mean that the outcome at the end of the scheme would not be a surprise to the ESO. This shared understanding would avoid a situation where the Performance Panel believes that the ESO's performance in a particular role deserves an incentive reward, but Ofgem's determination is that it should be given an incentive penalty, as was the case in 2019/20. We provide further views on the interaction between Ofgem and the Performance Panel in ESQ6.

We note Ofgem's position that several activities in the delivery plan are multi-year undertakings. However, our updated delivery plan will provide more granular milestones throughout the period, and we note that our stakeholders will expect to see strong performance from the ESO across the full duration of the business plan. Against a backdrop of rapid and continual change, strong performance need not necessarily refer to the completion of milestones to original target dates (some of which will have been set more than two years earlier), but should be a qualitative measure of our performance to date, taking into account stakeholder engagement, metric performance and whether we have pursued activities that are in the consumer interest and will ultimately contribute to the delivery of agreed outcomes. In this way, delivering to adjusted milestones within the incentive period which can be evidenced to be for the benefit of stakeholders and consumers should still be subject to reward.

A combination of financial outcome, scores, and qualitative feedback on a regular basis would give the ESO a clear steer on whether it is meeting the expectations of Ofgem and the Performance Panel. This would be a strong motivator for teams across the ESO. It would also be helpful for the process of deciding on the ESO's scores to be more robust and transparent to industry: this would increase stakeholders' understanding of the

scheme and desire to participate, as well as ensuring that decisions on the financial outcome can be justified regardless of the economic or political climate.

Finally, under the current scheme, we have found it impossible to forecast incentive performance, which creates issues when reporting overall financial performance as well as for setting BSUoS charges. It is a challenge for our auditors to sign off our annual statutory accounts where there is a material matter of subjective judgement affecting the financial outcome. The potential for error in the estimation of overall performance for a two-year period could lead to a significant misstatement of ESO results.

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

Please note our answer to ESOQ5, where we state that we do not agree that the financial reward or penalty should be determined every two years. Ofgem should use the Performance Panel's scores to make a decision on the ESO's incentive outcome at the end of each year.

Under the existing incentive scheme, we have found feedback and scores from Ofgem and the Performance Panel provide a useful indication of areas where we need to focus, in order to improve our performance. Regular, detailed feedback gives us the opportunity to course-correct, and better meet stakeholders' expectations during the remainder of the period.

We support Ofgem's proposal for Ofgem and the Performance Panel to provide feedback on our performance at six monthly intervals. However, we note that Ofgem proposes that the six-month review process will not include a full evaluation and scoring process. We would prefer to receive a score from the Panel every six months (as per the current process), as this provides useful context to the feedback received, and helps us to forecast our incentive performance.

We welcome Ofgem's proposal that all scores given by the Performance Panel will be a single score per role rather than the range, which is possible today, as this will give a clearer indication of our performance. As outlined in our answer to ESOQ5, this score should translate into a financial outcome for the ESO at the end of each year. This outcome of the incentive scheme should reflect all feedback received across the year, so that the outcome is not unduly influenced by events towards the end of the period.

We have some further concerns about the approach to assessment and feedback which are outlined below.

Interaction between Ofgem and the Performance Panel

We would like Ofgem to clarify the interaction between itself and the Performance Panel. The experience of 2019/20 has taught us that Ofgem can use its discretion to a much greater extent than we had anticipated when converting the Panel's scores into an incentive reward. For the scheme to work effectively, there should be a shared view of how well the ESO is performing.

We are also concerned that the Performance Panel is not sufficiently independent of Ofgem, given that Ofgem currently acts as chair and secretariat for the Performance Panel. We therefore propose that there should be an independent chair of the Performance Panel, who should provide input to, and be engaged in, Ofgem's process to determine the final incentive outcome.

Performance Panel role in cost assessment

It is not clear what information would be required for Ofgem and the Performance Panel to give a view of cost efficiency. Unless this is clearly specified, there is a significant risk that the inclusion of the value for money criterion in the incentive scheme leads to significant risk aversion on the part of the ESO. This goes against our shared ambition for the ESO to be proactive, innovative and agile. More information is in our answer to ESOQ7 and ESOQ19.

Timing of call for evidence

Ofgem also proposes that the call for evidence would only take place every year, rather than every six months. To date, we have found the call for evidence process to be a transparent way for our stakeholders to provide feedback to Ofgem, and the feedback has also proved valuable to the ESO. We would therefore prefer for this to take place every six months to facilitate meaningful feedback and scoring from Ofgem and the Performance Panel every six months. However, we note that the stakeholder events require significant resource, and we would be happy for the process to be streamlined so that these only take place once a year.

Reporting burden

Ofgem refers to a reduction in reporting burden, stating that the ESO would not need to provide detailed reporting every six months. However, it is not clear that the new arrangements would lead to a reduced reporting burden. Although less narrative would be required for the consumer benefit criterion, this could be outweighed by the extent of cost reporting which could be needed to provide evidence of cost efficiency.

Under Ofgem’s proposals the ESO would produce a significant number of reports, and receive feedback, as shown in the table below (which also shows reports which are not associated with the incentive scheme). We provide further views on reporting requirements in our answer to ESOQ39, along with suggestions of how this could be streamlined.

RIO-2 reporting requirements: Ofgem’s proposal

	Monthly	Quarterly	Mid year	Annual	Every 2 years
ESO outputs	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 11 Ongoing: cost information for IT projects when change to investment stage or expected costs 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 13 Plan delivery tables Zero carbon operability Ongoing: cost information for IT projects when change to investment stage or expected costs 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 13 Plan delivery tables Zero carbon operability Stakeholder evidence Consumer benefit (against CBA report) Historic costs Ongoing: cost information for IT projects when change to investment stage or expected costs Digitalisation action plan update 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 16 Plan delivery tables Zero carbon operability Stakeholder evidence Consumer benefit (against CBA report) Historic costs Ongoing: cost information for IT projects when change to investment stage or expected costs Digitalisation action plan update RRP NIA RRP NIA Annual Summary NIA project reports (plus any new reporting requirements for SIF) Innovation strategy 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 16 Plan delivery tables Zero carbon operability Stakeholder evidence Consumer benefit (against CBA report) Historic costs Ongoing: cost information for IT projects when change to investment stage or expected costs Digitalisation action plan update Digitalisation strategy update RRP NIA RRP NIA Annual Summary NIA project reports (plus any new reporting requirements for SIF) Innovation strategy
Ofgem outputs			<ul style="list-style-type: none"> Targeted feedback from performance panel Update to cost benchmark for projects not originally included 	<ul style="list-style-type: none"> Ofgem call for evidence Ofgem stakeholder survey Mid-period evaluation report and scoring Stakeholder event Update to cost benchmark for projects not originally included 	<ul style="list-style-type: none"> Ofgem call for evidence Ofgem stakeholder survey Stakeholder event End of period evaluation report, scoring and final incentive decision Update to cost benchmark for projects not originally included

Figure 1: RIO-2 reporting requirements and Ofgem’s proposals

As discussed with Ofgem since the publication of the draft determinations document, the ESO will continue to provide a stakeholder evidence narrative every six months, in order to provide evidence of how we are working with stakeholders, seeking their feedback, and acting on the information we receive. We believe that this narrative section will be vital to Ofgem and the Performance Panel when assessing our performance.

We would like to work with Ofgem to develop further details of how the reporting processes will work in RIO-2, with the shared objective of developing arrangements that are streamlined and proportionate.

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

We welcome the additional clarity provided on how scores will be determined for each role. However, we note that the wording within Table 8 of Ofgem’s ESO draft determinations document may mean that the top and bottom of the range are unlikely to be used, as all criteria must be exceeded to achieve a 5, and no criteria must be met to achieve a 1. This is likely to lead to a mid-range outcome for each role, which, as now, significantly weakens the incentive scheme. An alternative methodology such as the one below would give more clarity and transparency:

- 5: most criteria are “exceeds”, none are “below”
- 4: some criteria are “exceeds”, no more than one is “below”

- 3: approximate balance of “exceeds” and “below”, or most criteria are “meets”
- 2: some criteria are “below”, no more than one is “exceeds”
- 1: most criteria are “below”, none are “exceeds”

It would also be useful to understand ex ante which evaluation criteria are most important for each role. The 2019/20 incentive decision highlighted that the Panel and Ofgem could consider different criteria to be important, and that this can result in a materially different outcome. If particular aspects are more important for each role, this needs to be clear up-front, so that the incentive scheme could have its intended effect of driving particular behaviours from the ESO. This would be similar to the approach used in a competitive tender event, where the weighting of different assessment criteria would be known to all prospective bidders at the outset.

We note that Ofgem can use its discretion to adjust the ESO's incentive reward within a range of the default reward or penalty indicated by the panel's score. Such adjustments should only be used when the Panel's decision is not felt to be consistent with the agreed evaluation criteria.

Plan Delivery

For the plan delivery criterion, we welcome the additional guidance provided within the ESO roles framework, as ex ante clarity on expectations will lead to a more effective incentive scheme. We also welcome the intention to make exceptions for instances where deviating from the delivery schedule is either in the consumer interest, or outside of the ESO's control. We provide further comments on the delivery schedule in ESOQ11.

Metrics

We welcome the recognition that the supporting narrative for metrics is important and should be considered by the Performance Panel when evaluating this aspect of our performance. We suggest that the description within Table 9 of Ofgem's ESO draft determinations document is amended to reflect this, for example so that the “meets” criterion includes scores which were below expectations but include mitigating reasons, and the “exceeds” criterion includes scores which are in line with expectations with mitigating reasons. For Role 3, we acknowledge that it is difficult to set robust benchmarks for performance metrics due to the longer-term nature of this role. As such, we agree that Role 3 performance measures should take the form of regularly reported evidence.

We provide further comments on metrics in ESOQ13 and ESOQ14.

Stakeholder Evidence

Following discussion with Ofgem, we understand that this now includes a stakeholder evidence narrative as well as a stakeholder satisfaction survey for each role.

The stakeholder evidence narrative would be a continuation of that included in today's incentive reports, demonstrating how we have gathered and acted upon stakeholder feedback throughout the year, and describing the wide range of stakeholder interactions which may not otherwise be visible to Ofgem and the Performance Panel. We would explain any poor feedback received and demonstrate how we are acting on this. This section would also include information collected from our more targeted surveys, such as Net Promoter Score (NPS) surveys of the executive leaders of our customer and stakeholder organisations, and web-based surveys which seek feedback on the day-to-day or operational experience of working with us. We would also use the satisfaction surveys to measure progress against our ambition to be a trusted partner, and report this score in the narrative section so that stakeholders can measure how we are progressing towards this long-term vision. We would expect the full range of evidence provided, as well as the outputs of the call for evidence, to be taken into account when assessing our performance under this criterion.

Demonstration of Plan Benefits

We support Ofgem's intention to use our RIIO-2 Business Plan Annex 2 Cost-Benefit Analysis Report¹ (CBA report) as a starting point to demonstrate the consumer benefit we achieved from our Business Plan. We will provide a short narrative to explain any changes in circumstances affecting our ability to deliver consumer benefits.

We believe that the delivery of consumer benefit is strongly linked to the completion of the deliverables described in the CBA report, and supported by the performance measures which are linked to each deliverable.

¹ <https://www.nationalgrideso.com/document/158061/download>

An ex post evaluation of the originally-stated consumer benefit (using the consumer benefit described in the original CBA report) is more appropriate than using a modelled counterfactual to measure the consumer benefit which has resulted from our activities. This is because it is difficult to establish a counterfactual in a credible and transparent way. The evaluative scheme should allow us to be rewarded for successfully progressing those activities which we had established in the Business Plan would result in consumer benefit and deviating from this plan where it is in the consumer interest to do so.

Value for Money

Given the relatively small size of our internal costs, and our critical role in the industry, we are much better able to benefit consumers by delivering high-quality outputs than by just reducing our internal costs. An incentive scheme which seeks to primarily drive down our internal costs could lead to worse outcomes for consumers if we are discouraged from pursuing additional initiatives outside our Business Plan which are in the interest of consumers.

We recognise that it is necessary to incentivise value for money, and we understand Ofgem's rationale for including value for money as a criterion in the incentive scheme. However, we note that an evaluative incentive is expected to be significantly weaker than other types of incentive mechanism in achieving this objective, as the evaluative scheme does not have a clear incentive rate.

To be effective, the incentive scheme should allow a holistic assessment to be made of what has been delivered for the money which has been spent, leaving disallowance as a backstop which is only applicable to Demonstrably Inefficient and Wasteful Expenditure (DIWE).

It is important to clarify what information will need to be provided in order to demonstrate efficiency, in order to avoid creating a disproportionate reporting burden. We propose that costs are reported at a high level (e.g. fewer than ten categories) and then significant deviations from the cost benchmark for each of these categories should be explained. This would strike a balance between holding us to account to deliver value for money, while not requiring a disproportionate focus on small sums of money or changes to costs or project milestones within standard tolerances. A 10 per cent materiality threshold would focus discussions on major areas of capex and IT opex investment where the majority of consumer value is held.

As set out in our answer to ESOQ21, around half of ESO costs do not fit neatly into Roles, and it is not meaningful to arbitrarily allocate these costs across the roles. There is also significant interaction between the Roles meaning that activities carried out in one Role area (e.g. market reforms in Role 2) will lead to cost savings in a different role area (e.g. savings to balancing costs in Role 1). We would be happy to work with Ofgem to develop an appropriate way to split costs as part of the value for money assessment.

We are also happy to work with Ofgem to agree the format of cost information which will need to be provided.

Ofgem must provide more clarity on how it and the Performance Panel will assess whether our costs are efficient. For example, will the use of efficient processes such as competitive tendering to reveal efficient prices be taken into account? Will benchmarking against other organisations be used? We would also welcome clarity on how and whether changes in our spending will be assessed. We must retain the flexibility to redistribute resources across different projects to obtain the best value for money for consumers, and the efficiency assessment should not discourage this. We also think that the "exceeds" criterion should refer to cost increases being supported by the delivery of additional beneficial outputs.

Innovation

To date, the incentive scheme has not rewarded us for projects delivered which are funded by innovation funding. The nature of ESO innovation is such that activities tend not to benefit us directly through reducing internal costs. Where the ESO successfully delivers innovation activities, this would benefit consumers via savings to BSUoS charges which are paid by system users. Furthermore, we will not benefit financially through internal cost reductions through a totex incentive mechanism, unlike the network companies.

Under RIIO-2, the incentive scheme should recognise innovation projects and reward their success in the same way as projects which are part of the Business Plan. However, when assessing value for money, it would be important to take into account that innovation projects have a different risk profile from other projects, with a lower likelihood of success.

Operation of the scheme

Due to the number of variables and the inherent subjectivity of the scheme, we would like to set out our understanding of how the RIIO-2 scheme will work. This is based on the draft determinations and subsequent

discussions with Ofgem. The updated ESO Reporting and Incentive Arrangements (ESORI) guidance that sets out the provisions of the RIIO-2 incentive scheme should include these points.

Our understanding of Ofgem’s proposals for how the scheme works is as follows:

- ESO produces a draft delivery schedule
- Ofgem and the Performance Panel grade the draft delivery schedule as part of draft determinations, giving detailed feedback on how the ESO would need to change the delivery schedule to improve its score for each role
- ESO produces a final delivery schedule
- Ofgem and the Panel grade the final delivery schedule as part of final determinations, setting an ambition score between one and five for each role. It should be credible that the full range of ambition scores will be used.
- The ambition score represents the default scores for plan delivery and consumer benefit which would be given for on-track delivery of this schedule as part of the ‘plan delivery’ criterion.
- Ofgem’s ex ante view of efficient costs is set based on the baseline plan, and updated every six months as additional investments are reviewed and approved. If the delivery schedule is considered ambitious and delivered to Ofgem’s ex ante view of efficient costs, the ESO should receive an “exceeding” score for both delivery and cost efficiency. The ESO can receive an “exceeding expectations” score for the value for money criterion either by delivering these activities at a lower cost, or by delivering additional value-adding activities for a proportionate increase in cost. The ESO can receive a “below expectations” score for value for money either by delivering the activities in the delivery schedule with an unjustified increase in cost, or unjustified non-delivery of the activities in the delivery schedule despite incurring the costs associated with delivering them.
- The ESO publishes regular reports, providing information on a monthly, quarterly, biannual and annual basis.
- The ESO may, every six months, submit further information on projects that were not included in Ofgem’s ex ante view of efficient costs, either because Ofgem didn’t feel able to assess the costs at an earlier stage, or because the projects and activities are new. Where this represents a material change to the ESO’s roles or responsibilities, this could merit changes in Ofgem’s ex ante view of efficient costs, the delivery schedule, and performance measures.
- Every six months, the ESO receives detailed feedback from Ofgem and the Performance Panel. We believe this should include a score for each role. The scores for plan delivery and consumer benefit take account of the ambition of the plan, with the default score being the ambition score for the plan.
- At the end of each year, a stakeholder event takes place, and following this the ESO receives detailed feedback from Ofgem and the Panel, with a score for each role. The scores for plan delivery and consumer benefit take account of the ambition of the plan, with the default score being the ambition score for the plan. We believe that a decision on incentive reward for that year should be made, with Ofgem only adjusting from the default score where the panel’s decision is not consistent with the agreed evaluation criteria.

ESQ8. Do you agree with our proposals on the incentive scheme value?

We cautiously welcome the proposed incentive scheme value and asymmetry.

A strong incentive scheme with a clear link between performance and reward, if it is credible and well-designed, should motivate us to produce an ambitious plan, and strive to outperform it. For this incentive scheme to be meaningful we, and stakeholders, must have confidence that the full range of the incentive scheme would be used. Experience of the scheme to date suggests that scores and rewards tend towards the middle of the range, with scores around 3 out of 5, and rewards of £1 million or less despite a theoretical maximum of £30 million. This is unsurprising given the subjective elements in the scheme. If mid-range scores continue to be expected, the scheme will have a weak motivational effect on performance.

We welcome the asymmetric nature of the scheme. This gives the opportunity for us to be rewarded without the financeability implications of the risk of a large penalty, while also allowing money to be returned to consumers in the event of poor performance by the ESO. However, as we understand that a score of 3 will

default to a financial outcome of £0, it remains important that the rules of the incentive scheme are clearly defined so that full range of the scheme is meaningful.

The incentive downside should take account of financeability considerations for the ESO. As we have very little equity buffer, we cannot afford to incur losses greater than £4 million per year (for more details please see our answer to ESOQ29). We note that, if the incentive outcome is only confirmed at the end of the two-year business plan period, this could result in a loss of £12 million for the ESO. This supports our view, for the incentive scheme to be effective, there must be a shared understanding of performance throughout the scheme, a minimisation of surprises, and an annual decision on financial outcome.

Further information on financeability is given in our answers to ESOQ25-29.

Outputs

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

We agree with Ofgem's position that a new licence condition should be introduced to clearly set out the minimum standards expected of the ESO, associated with the ESO's RIIO-2 Business Plan activities.

We agree that the proposal does not appear to introduce any new responsibilities or requirements on the ESO that are not already being discussed or within its Business Plan proposals. However, the drafting proposed to date in the licence drafting workshops provides no further detail than what is currently set out in paragraph 3.6 of the ESO draft determinations. We are supportive of principle-based regulation but, as referred to in a number of places in chapter 2 of the draft determinations in relation to the incentives framework, we equally consider it is essential to have shared clarity as to what constitutes baseline expectations to ensure regulatory certainty in the licence obligations. Considering the breadth of the ESO's work, we consider the detail probably sits best outside the licence but there needs to be a clear link between the obligations in the licence and the documents supporting the licence obligations. All supporting documentation should flow from the obligations set out in the licence and those supporting documents should then align both with licence obligations as well as between the various documents themselves to avoid any conflicting obligations. The supporting documents need to be agreed and available before the licence obligations come into force. It is also essential to have robust governance procedures in place to ensure proper assurance and consultation on the development and any subsequent changes to these supporting documents.

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

We support Ofgem's proposal to update the Roles framework guidance to set more focussed expectations associated with the ESO's business plan activities, and incorporate expanded guidance on how the ESO can exceed baseline expectations for each activity. We also welcome the idea of a transparent and detailed statement of incentive performance expectations for RIIO-2. The incentive scheme will only be effective if there is a shared understanding of what constitutes baseline performance, exceeding expectations, and below expectations, for each of our activities.

We would welcome the opportunity to comment on the revised ESO Roles Framework guidance when it is available.

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

We support Ofgem's intention to grade the delivery schedule, recognising where our plans are ambitious and linking a more ambitious plan to a higher incentive reward. We agree that the grading of the delivery schedule should be the default score for on-track delivery of the plan. However, paragraph 3.31 in Ofgem's draft determinations document implies that this score would only be achieved by outperforming metrics and receiving positive stakeholder satisfaction. We do not agree with this; it should not be necessary to exceed some criteria in order to receive the default score associated with the ambition in the plan.

We have summarised our thoughts on Ofgem's grading of our aims and delivery schedule below. Further detail can be found in Annex 3.

Role 1: Control centre operations

We are pleased to note Ofgem's views "that the aims for Role 1 are very ambitious" and "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". We also acknowledge Ofgem's comment that "it is vital that there is evident and tangible progress made towards delivering these aims in the first Business Plan period".

We understand Ofgem's need for further detail about the specific outputs and outcomes we are delivering by March 2023 and how these will make progress against our RIIO-2 ambition to be able to operate the system carbon free by 2025. We will provide greater clarity through our updated delivery schedule in October. This will also demonstrate how the milestones in BP1 will make sure longer term projects are on track.

The systems and tools the Control Centre needs to operate (and, if needed, restore) a carbon free system will be delivered in an agile way. This means that while we will be able to share the high level functionality to be deployed, detailed milestones will only be available on a rolling basis as the deployment programme is periodically prioritised.

We see a role for the Technology Advisory Council (previously called the RIIO-2 Design Authority) to provide Ofgem and stakeholders further clarity and detail while we adopt an agile approach. The establishment of the Technology Advisory Council will provide independent challenge and guidance. It will also ensure that the roadmaps (high level milestones) will deliver stakeholder and customer requirements, and through regular review, remain on track. Records of the Technology Advisory Council discussions and minutes will be readily available and could be used to formally monitor progress against our ambition.

We understand the need for further clarity on how we will include system restoration procurement in the delivery of Competition Everywhere across the wide range of services, while incorporating the outputs from the innovation project. We note Ofgem's view that "completing and assessing learnings from innovation project ReStart meets our expectations". We will provide greater clarity on the expected outputs and timeline for developing next steps in our updated delivery schedule in October. However, it should be noted the ability to take full advantage of non-traditional sources of generation at all voltage levels for system restoration is highly dependent on both the success of the demonstration phase, and the reactions of multiple network companies and potential providers to the lessons learned through the innovation project.

We are pleased to note Ofgem's view that "most restoration standard deliverables are sufficiently specified." and "the implementation of a restoration standard meets our expectations". We understand the need for further detail on how we will develop and deliver the decision-making support tool. Our updated delivery schedule will provide greater clarity on the system and process changes to be made, how the data and communications requirements necessary for this tool will be addressed, and how delivery of this tool will be coordinated with the other changes to Control Centre architecture and systems.

We are pleased that Ofgem view the data and analytics platform as a development that would exceed expectations. We will provide further information on what can be achieved with work on ESO-DSO data exchange in our updated delivery schedule to be published in October.

We understand Ofgem's expectations for demand forecasting and will provide further detail on how we will apply new tools and techniques to improve demand forecasting accuracy in our updated delivery schedule in October. We also understand the need for further information on how we will increase transparency across our operations and will be providing details of a Transparency Roadmap.

In advance of RIIO-2 (Q4 2020-21) we will be publishing significant new and additional information that will drive a step change in transparency and market understanding of our short-term operational decision making. Our Operational Decision-Making Transparency deliverable will provide details on both actions taken and not taken, as well as data and a summary of actions taken out of merit order for operational reasons. Further information is provided under question ESOQ13 on metrics.

Role 2: Market development and transactions

We welcome Ofgem's support for closer to real time markets and the "ambitious well-formed aims in this area". We understand Ofgem's need for further clarity on "Competition Everywhere" and the need to provide further information on how this applies to other services such as stability, thermal and reactive. We will provide further clarity on our approach to operability services markets in our updated delivery schedule to be submitted in October. However, it should be noted that we will not always be able to define exactly what will be delivered, by when and how success will be measured. This is because there is significant analytical work

to define the need case, as well as stakeholder engagement and market design to define the details of the competitive mechanisms.

We also acknowledge Ofgem's comments on "to which extent this aim applies across the whole system, including how the ESO intends to interface with emerging distribution-level markets". We will provide further clarity on our approach to applying whole-system thinking to this aim in our updated delivery schedule to be submitted in October. However, it should be noted that much of the activity to achieve consistent and aligned markets and platforms for flexibility services across transmission and distribution sits outside the ESO's control.

We welcome Ofgem's support for our aim to transform access to the Capacity Market (CM) and accept Ofgem's need for further clarity on the deliverables for the activities relating to both CM and Contracts for Difference (CfD). We will provide further clarity on our approach to delivering a step change in the end-to-end experience of participants, implementation of policy changes, and the sophistication and accuracy of procurement recommendations for the CM in our updated delivery schedule to be submitted in October.

It is important to note though, that the successful implementation of policy and regulatory changes by the Delivery Body (and other EMR Delivery Partners) is dependent on the extent, nature and timing of changes determined by Ofgem and BEIS. This has been recognised by the CM Policy and Delivery Board, chaired by BEIS, which has agreed to manage and prioritise the programme of regulatory change to ensure that it is coordinated and deliverable. The amount of policy and regulatory change considered by BEIS and Ofgem is very significant. BEIS and Ofgem are also progressing their five-year reviews of the CM which likely to lead to further regulatory change requirements for the EMR Delivery Body.

As EMR Delivery Body, we always strive to support policy and regulatory change by BEIS and Ofgem and implement these changes in a timely and efficient manner. We have demonstrated our willingness and ability to be agile and respond swiftly to changing requirements, most recently when helping to shape and deliver the rapid regulatory changes that were required to restart the CM from suspension and then further changes implemented at pace to support customers in dealing with the impact of the Coronavirus pandemic. Whilst we are always willing to respond swiftly to changing regulatory requirements by Ofgem and BEIS, it is important to recognise the impact such changes can have on our existing work and change programme and the improvements and outputs that we aim to deliver. In assessing our aims, deliverables and performance, Ofgem and the Performance Panel should take account of this important context.

We welcome Ofgem's support for our code change proposals including 'Transforming the process to amend our codes and the whole system, digitalised Grid Code'. We also understand the need to provide tangible examples of how we will drive market and frameworks change in the interests of consumers. We will include an articulation of potential focus areas in our updated delivery schedule in October. We will also review our proposals for the SQSS review and our provision of technical support for distribution codes for resubmission in our updated delivery schedule in October. Our proposed approach is to take a strategic view of requirements before committing to specific changes which demand significant time and industry input to deliver.

Role 3: system insight, planning and network development

We are disappointed in Ofgem's grading of Role 3 on our delivery schedule. Our Role 3 proposals are vital to each of our four ambitions, particularly our ambition to operate a carbon free system by 2025. Role 3 must provide the modelling, analysis and ultimately the tools (many of which have never been developed before) to support system operation in real time - albeit they are developed in longer term timescales.

Similarly, we are disappointed in Ofgem's grading of the Long-Term Network Planning aspects of our plan. Work in this area to broaden the range of potential solutions to network needs, the providers of those solutions, and the development of new complex and bespoke tools to assess their cost and suitability, has already been recognised externally as world-leading and very ambitious. We are not aware, and Ofgem has not made us aware, of any examples of transmission system operators undertaking a more ambitious programme in terms of:

- breadth or depth of potential solutions to system needs
- complexity and diversity of commercial and regulatory arrangements; and
- size of system.

Having said that, we acknowledge that the way we presented our plans could have more clearly articulated how they come together as a coherent set of proposals. We are in ongoing discussions with Ofgem to understand its feedback in more detail, so that we can ensure a clearer articulation of the collective aims of Role 3, alongside additional detail on our proposals, in our updated delivery schedule in October. This will

include, for example, more detail on how the pathfinder projects operate within the umbrella of the network options assessment (NOA) process, interactions between the tools and techniques used in the assessment of proposals; and how learning will be incorporated into the overall NOA methodology on an ongoing basis.

We agree with Ofgem that any future plans for greater coordination in offshore networks, or for early competition in transmission networks, may further shape the aims of Role 3 in future. The extent to which we are able to extend our proposed / established processes across the whole system is not entirely within our control, but we look forward to working with our stakeholders to do this where possible.

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

Role 1: System Operation

To exceed our stakeholders' expectations for system operation we must lay the foundations that will enable us to operate a carbon free electricity system by 2025. Operating a system with very high volumes of decentralised and renewable energy resources will require tools to enable us to better understand the operational situation, make better operational decisions and continue to run the system securely and efficiently in a more challenging environment. They will also need to enable us to schedule and dispatch the new low carbon technologies of the future.

In this period, we will focus on preparing, and starting delivery of, the enhanced balancing capability and network control tools that will provide these capabilities. We will also implement a data and analytics platform to underpin our new systems and data management capabilities. We will transform our systems in an agile and modular way, consulting with stakeholders through a new technology Advisory Council to inform delivery.

The ability to operate a carbon free system will also require our control centre engineers to make more decisions in an increasingly unpredictable environment. We will upgrade our Control Centre training and simulation capabilities by enhancing our training materials and explore best practice in training and simulation technology. Through building new relationships with academia, we will start to run enhanced courses in system operation to ensure we have a pipeline of talent ahead of carbon free operation in 2025.

We will also focus on evolving our restoration procedures to deliver quicker restoration in line with the expected new GB restoration standard. We will also be developing a level playing field with new parties able to participate in restoration, leading to more diversity in restoration providers, giving us more options for system restoration.

Role 2: Market development and transactions

To exceed our stakeholders' expectations for Market development and transactions we must drive towards our ambition of Competition Everywhere. We will make it much easier for market participants to provide balancing services to us which will be accessed through a Single Markets Platform. We will also remove barriers to entry through establishing a single day-ahead Response and Reserve Market.

In this period we will also develop and implement competitive approaches to procurement of other system services such as stability. We will enhance the customer experience of participating in the Capacity Market and Contracts for Difference (CfD) auctions through upgrading the EMR portal in advance of integration with the Single Markets Platform. In parallel we will be transforming our supporting infrastructure, including billing and settlements systems, to ensure we can be flexible to changing requirements and provide an enhanced customer experience.

As we develop our markets we will work closely with other parties, including those at the distribution level, to ensure our markets and systems are consistent and aligned across the whole electricity system.

We will focus on making the transition from a code administrator to a code manager; taking a more proactive approach to driving change that will benefit energy consumers. This will include promoting codes and standards changes to ensure they are fit for a low carbon, more decentralised system. We will work with others to ensure that commercial, technical and regulatory arrangements across transmission and distribution will be far more joined up; for example, through a digitalised whole system Grid Code, which we will lay the foundations for in this period.

Role 3: System insight, planning and network development

To exceed our stakeholders' expectations for Role 3 we must deliver the longer-term tools that will enable us to operate a carbon free electricity system by 2025. As part of this, we will work towards our ambition of

Competition Everywhere to further enable asset and non-asset solutions to compete to meet future electricity system needs, both in the short- and long-term.

To be able to achieve our ambitions, we must adapt and enhance our analytical tools and capabilities across the Role 3 activities. New *Future Energy Scenarios* (FES) models will enable us to analyse larger datasets and provide greater insight on the paths to net zero.

Similarly, we will transform our models and system analysis capability for analysing future, more complex, electricity system needs and operability solutions. This will ensure that we have the most effective tools for carbon free system operation by 2025, and beyond. This will also enable us to more clearly communicate operability needs to a wider range of stakeholders and to attract new and innovative solutions to network needs.

In this period, we will continue to ‘learn by doing’ via our Pathfinder projects to enhance and embed competitive approaches to procurement of system services such as stability and voltage. By March 2023 our *Network Options Assessment* (NOA) assessment tools will be largely replaced to cover all energy-related network issues, enabling larger and more complex datasets to be analysed and tenders to be assessed. We will start the process for extending the NOA to other areas of network development, such as Connections Wider Works and end-of-life asset replacement, to bring further long term benefit to consumers.

It is critical in this period that we work extensively with network companies to support development of whole electricity system solutions and in particular with distribution network operators (DNOs) to support the distribution system operation (DSO) transition as priorities for the distribution networks’ 2023 price control, RII0-ED2, are defined. Working together we will facilitate zero carbon operability through, for example, the continued roll-out and scaling up of solutions developed through our Regional Development Plans; and more closely co-ordinate requirements for system access, through more collaborative access planning. We will also support and co-ordinate with other network organisations as they embed their own regional future scenarios and develop their own NOA-type processes.

Lastly, we will enhance our customers’ experiences when managing their connection applications, contracts and compliance via development and implementation of our connections hub. We will work closely with the TOs and DNOs to streamline the connection process for the benefit of our customers. Through this collaboration we will strengthen our position as a ‘trusted partner’ at the heart of the energy system.

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

We welcome Ofgem's recognition of our extensive stakeholder engagement and comprehensive development of metrics. We are also supportive of Ofgem's intention to streamline metrics to reduce reporting burden, although we note that where metrics are re-classified as regularly reported evidence this does not bring a reduction in reporting burden.

We provide our comments on each metric in the table below.

Metric	ESO view of metric
Balancing costs	We agree that a balancing costs metric is required. We provide further comments on the proposed methodology in ESOQ15.
Demand forecasting	We agree that a demand forecasting metric is needed. We believe that the mean absolute error is the best way to represent the performance. We provide further comments on the proposed methodology in ESOQ15.
Wind generation forecasting	Although the ESO will continue to forecast wind generation output in RII0-2, we note that wind output is increasingly influenced by market as well as weather conditions, as many wind farms have on-site storage. Detailed turbine-level data would be needed to improve forecast accuracy but this information is not available to the ESO. As our ability to forecast wind generation output is influenced by factors outside of our control, we propose that this becomes an item of regularly reported evidence rather than a metric.

Security of supply (frequency excursions)	We are happy to report on a monthly basis for frequency excursions, but we comment in ESO Q14 on the appropriate range of deviation to report.
Short notice changes to planned outages	We are happy to continue reporting short-notice changes to the plan made by the ESO, as a result of process failure, on a monthly basis.
Competitive procurement	We have observed that the introduction of more competitive approaches into these markets has driven down the price, and therefore historic data may indicate that less money is being spent in tendered markets. It is important to note that the volume of balancing services that we procure is generally fixed, and therefore for those products which are almost entirely competitively procured (e.g. frequency response), there is very little scope to shift more volume into those markets. This means that any increase in competition in those markets will lower the ESO spend, and therefore reduce the percentage. A metric based solely on spend therefore has a real risk of being misleading once there are sufficient competitive markets available. We would prefer to report this metric on a quarterly basis due to the reporting process being labour intensive.

Figure 2: ESO view of metrics

We note that Ofgem has proposed to remove several of our proposed metrics. We provide our comments on these metrics in the table below.

Metric	ESO view of removing metric
Code Administrator Code of Practice (CACoP) survey	We are content for this metric to be removed, and for satisfaction with our code administration performance to be measured as part of the stakeholder evidence criterion.
Right first time connection offers	We are content for this metric to be removed, and for satisfaction with our connections processes to be measured as part of the stakeholder evidence criterion.
Proportion of shareable data published	We are content for this metric to be removed.
Delivery of zero carbon operability ambition	We are content for this metric to be removed. As this is closely linked to plan delivery, it does not warrant a separate set of data. We plan to include this information in the executive summary of our incentives reporting to show how are we are working towards our ambitions.

Figure 3: ESO view of removing these metrics

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

We understand from discussions with Ofgem that the year 1 benchmarks described in Table 15 of the ESO draft determinations document are set to inform the mid-period performance review, to acknowledge that in some cases year 2 performance may not be achievable by year 1. This would mean that each benchmark just applies to the individual year in question, even though the report submitted at the end of the second year covers the full two-year period.

However, if performance during each of the years were to be assessed separately and an incentive reward determined at the end of each year, this would remove the complexity associated with having two sets of benchmarks, as each year’s performance could be assessed separately against its own benchmarks in order to calculate a score and reward. We elaborate further on the frequency of determining a financial reward or penalty in ESOQ6.

We provide our comments on each benchmark in the table below.

Metric	ESO view of benchmark
Balancing costs	We will work with Ofgem to agree a suitable methodology for calculating these benchmarks. We support Ofgem’s intention to factor in outturn costs from 2020/21 when calculating the benchmarks for 2021/22.
Demand forecasting	The proposed benchmarks are set in terms of percentage accuracy rather than megawatt (MW). We do not agree that this method of measuring demand forecasting accuracy tackles what is most important to the consumer; we explain this in ESOQ15.
Wind generation forecasting	No benchmark is proposed in the draft determinations, however in our view as explained in ESOQ13 it would be preferable for this to be an item of regularly reported evidence, and therefore no benchmarks would be required.
Security of supply (frequency excursions)	<p>We do not believe the benchmarks are appropriate.</p> <p>The Security and Quality of Supply Standard (SQSS) sets out the standards to which the National Electricity Transmission System should be operated. It defines the balance between economic and efficient operation, and security and quality of supply. This currently allows for the frequency to be outside 0.5 Hz infrequently, for example when a large loss of generation occurs.</p> <p>We note that in recent years, there have been very few excursions outside of 0.5 Hz. The number of events where the frequency is between 0.3 Hz and 0.5 Hz away from 50 Hz is not a relevant measure of the ESO’s performance, as under the current standards it is fully expected that events of this type will happen.</p> <p>In the interest of transparency, we now also report on less significant deviations, as per the Grid Code 0105 modification² which came into effect on 8 June 2020. We now publish the System Incidents Report³ on our website and this details all frequency deviations.</p> <p>Increasing volumes of intermittent and weather-driven generation, and an increase in market liquidity with continental Europe, have meant that both demand and generation are increasingly becoming more variable. This means that the system frequency is gradually becoming more volatile, resulting in the frequency being outside of the operational limits (49.8 Hz to 50.2 Hz) more often. However, the ESO will always seek to operate within the requirements of the SQSS.</p> <p>The frequency could be more closely contained within the proposed limits by increasing the amount of frequency response held. However, this would increase the ESO’s balancing service spend, which would conflict with the objective of the balancing costs metric. Measuring excursions against these tighter limits may create a perverse incentive to keep frequency within these limits, and affect the ESO’s ability to make efficient trade-offs between frequency levels and balancing service costs. It is not clear what would be achieved by keeping the frequency within a tighter range, especially given the significant additional cost that would be incurred. If we are incentivised to keep to</p>

² <https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0105-system-incidents-reporting>

³ <https://www.nationalgrideso.com/industry-information/industry-data-and-reports/system-incidents-report>

Metric	ESO view of benchmark
Balancing costs	We will work with Ofgem to agree a suitable methodology for calculating these benchmarks. We support Ofgem’s intention to factor in outturn costs from 2020/21 when calculating the benchmarks for 2021/22.
Demand forecasting	The proposed benchmarks are set in terms of percentage accuracy rather than megawatt (MW). We do not agree that this method of measuring demand forecasting accuracy tackles what is most important to the consumer; we explain this in ESOQ15.
Wind generation forecasting	<p>No benchmark is proposed in the draft determinations, however in our view as explained in ESOQ13 it would be preferable for this to be an item of regularly reported evidence, and therefore no benchmarks would be required.</p> <p>tighter frequency limits, we would expect this to be reflected in the benchmarks for the balancing costs metric.</p> <p>Security and Quality of Supply Standards modification GSR027 is addressing "the NETS SQSS Criteria for Frequency Control that drive reserve, response and inertia holding on the GB electricity system". It is doing this by introducing the Frequency Risk and Control Report to the SQSS, making standards for frequency control more transparent. The report will aim to set out an objective framework to determine the right balance between the two competing objectives of reliability and cost, including how often frequency deviations of different sizes would be expected to occur.</p> <p>The report will be created in consultation with the industry on at least an annual basis, and signed off by the Authority. This regular review will ensure that the impact of the changing energy landscape and loss risks over the coming years is reflected in the appropriate standard for frequency deviations.</p> <p>If a change to the frequency standard is to be made, we would expect it to be the outcome of this industry workstream, rather than an arbitrary figure chosen in advance of this. Any metric which incentivises the ESO to control the frequency differently from this is fundamentally undermining the role of the SQSS and Frequency Risk and Control Report.</p> <p>For this reason, we believe that the metric would be more effective if it only measured those instances where the frequency goes outside the frequency limits agreed through the Frequency Risk and Control Report, and took into account whether the ESO should have covered an event of this type.</p>
Short notice changes to planned outages	We believe the benchmarks are appropriate and sufficiently challenging.
Competitive procurement	We find the benchmarks sufficiently challenging for 2021/22 and 2022/23.

Figure 4: ESO view of the benchmark of metrics

ESQ15. 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?**Balancing Costs**

We welcome the recognition within Ofgem's proposals that wind levels have a significant impact on balancing costs, and support the intention to account for wind levels within the monthly balancing costs benchmarks.

When designing a methodology to calculate balancing costs benchmarks, it is important to strike a balance between having a simple, transparent methodology which can be understood by all stakeholders, and creating a model which fully accounts for variables that we can or cannot control.

Taking into account the feedback that we have received on measures of balancing costs to date, our preference is for a straightforward, transparent methodology: this could be based on option one (ex ante wind-adjusted benchmarks) as proposed by Ofgem. We note that there are a number of other factors outside of our control which could have a significant influence on balancing costs, for example the availability of particular transmission equipment, demand levels when they fall below a certain threshold, or adverse weather patterns even within a month where average wind levels are considered to be typical. Our monthly balancing costs metric would include a narrative explaining the effects of these factors.

A shorter historical time period should be used when calculating balancing cost benchmarks: this should give a more realistic view of this year, and avoid the need for some of the adjustment factors we have used in the *Forward Plan*. We note that costs during 2020/21 will have been impacted by the lockdown measures imposed to limit the spread of COVID-19, however it is not clear whether some extent of lockdown measures or behavioural changes will extend into 2021/22. We therefore propose to use the average of costs during 2019/20 and 2020/21 to derive annual cost benchmarks. As Ofgem suggests we can consider, on an annual basis, whether any further adjustments to the benchmark are needed, noting the need for these adjustments to be transparent to stakeholders. Ofgem's proposal to use a historical period of several years to apportion the overall annual cost benchmark across the different months of the year is sensible.

In our view, option one (ex ante wind-adjusted benchmarks) is preferable to option two (ex-post wind-adjusted benchmarks), as it is more transparent and will be easier for stakeholders to understand.

When defining "above typical wind" and "below typical wind" conditions, the proposal to consider the distribution of average daily outturn wind in megawatt hours (MWh) per megawatt (MW) of wind generation installed is sensible, although it will be necessary to consider whether the wind generation is connected to the transmission or distribution network; this could be particularly relevant if we have more ability to instruct embedded wind in the future. It will be important to take into account the actions that were taken to manage wind on the days contributing to this historical data, as there will be some days where wind levels would have been high, but we took action to reduce wind output. The distribution curve should consider what the historic wind output would have been if no balancing actions had been taken. We are happy to collaborate with Ofgem to produce suitable distribution curves for each month, and to define "above typical wind" and "below typical wind" conditions.

We support the proposal for restoration costs to be included as part of the balancing costs metric and would suggest that these costs are treated the same as all other balancing costs. The benchmark should take account of historical restoration costs. We note that the introduction of the restoration standard could impact the ESO's spend on restoration costs, although the timings for the introduction of this standard are not yet known. If this has a material impact on our balancing cost spend, we will explain this in the narrative section for this metric or consider an adjustment factor, depending on the timescale of the changes.

We note that Ofgem proposes to include information relating to the "capacity saved through our network access planning actions" as part of this metric. As we set out in ESQ18, we propose to continue reporting capacity saved in MWh, setting out an approximate £ figure per MWh as context. As the £ million figure would only be an approximation, it does not seem appropriate to report it as part of the balancing costs metric, which is constructed from actual data.

Going forward, we will consider developing an explanatory model of costs, which we can use to provide a detailed narrative within our reporting of the drivers for different categories of balancing costs. This would give us, Ofgem, the Panel and the market insight into how to reduce balancing costs in the future.

Demand forecasting

We are happy to use half-hourly rather than cardinal point data to report on our demand forecasting performance. However, we do not support the proposal to calculate the absolute percentage error rather than absolute mean error for the day ahead demand forecasting metric.

When designing a metric, it is important to consider the behaviours the metric is trying to drive, and the impact that will be felt by the end consumer. The impact on the end consumer is proportional to the volume of balancing actions which must be taken by the control centre to change the amount of generation on the system when the demand outturns differently from the day-ahead forecast. It therefore follows that the consumer impact would be more closely linked to the MW error (i.e. how far away the actual demand is from the forecast) than the percentage error in demand.

We are also concerned that measuring percentage errors in demand could drive a disproportionate focus on improving demand forecasting performance when demands are low, whereas accurate forecasts are important to the market at all times, particularly when demand is high.

The metric should reflect the quantity that it was designed to report on, in this case the national demand. National demand is the sum of total demand in GB, less distributed wind, less distributed solar, and less other distributed sources. Year on year, the last three terms are increasing which means that the national demand outturn is decreasing. However, the errors combine additively, so the overall national demand error is increasing at the same time as the national demand outturn is decreasing. Therefore, a proportional relationship between the quantity measured (national demand) and the error should not be expected, and therefore a percentage measure is not appropriate.

We changed our methodology for this metric for 2020/21 as a result of stakeholder feedback, using an overall target for the year rather than counting the months in which the target was met. Monthly performance is reported for comparison purposes only, but the annual forecasting accuracy is the true measure of our performance. We also note that it is only a small number of stakeholders who have asked for the metric to be reported as a percentage.

Wind forecasting

Firstly, as we note above, wind generation output is increasingly influenced by market signals, which are beyond our forecasting scope. Market conditions generally influence wind generators' strategies around their on-site storage usage and their response to the situations when prices are negative.

Secondly, we do not currently have turbine-level data which would be required to improve forecast accuracy. Data required to make advances in forecasting performance include: topographic information of each turbine within a wind farm, output from each turbine, and proposed status of each turbine in the future.

As our ability to forecast wind generation output is influenced by factors outside of our control, we propose that this becomes an item of Regularly Reported Evidence rather than a metric. We would continue to report half hourly mean absolute percentage error.

ESQ16. Do you agree with our proposals for measuring stakeholder satisfaction?

We are happy to work with Ofgem to design a single survey to cover overall customer and stakeholder satisfaction, which would be carried out by our existing independent provider. The proposed target of 7.5 out of 10 is reasonable for responses to a question asking how stakeholders rate the ESO overall. We will work with Ofgem to agree suitable supplementary questions. Our intention is that this survey will also be used to measure our progress against our ambition to be a trusted partner, and hence would be based around the various elements of the trust equation. We (and our stakeholders) are keen to measure progress towards all four of our 2025 goals.

However, we do not believe that this survey in isolation is sufficient to enable us to gather meaningful feedback. In recent years, we have developed a strategy to obtain feedback from our stakeholders, which segments our customer types into: executive relationships with senior level customers and stakeholders; strategic relationships with decision makers; working level and operational relationships and interactions; and event attendees. We use different insight tools for each of these segments, ranging from Net Promoter Score (NPS) surveys of the executive leaders of our customer and stakeholder organisations, to on-the-day feedback tools for events. This approach maximises our opportunity to gather useful feedback on our activities.

Following discussion with Ofgem, we understand that the intention is for us to also produce a stakeholder evidence narrative for each role. We welcome this and would envisage it being a continuation of the narrative sections included in today's incentive reports, demonstrating how we have acted on stakeholder feedback throughout the year, and describing the wide range of stakeholder interactions which may not otherwise be visible to Ofgem and the Performance Panel.

Within the narrative section, we would explain any poor feedback received, and demonstrate how we are acting on this feedback. This section would also include information collected from our more targeted surveys. We would also report on our progress against our ESO ambition to be a trusted partner. We would expect that the full range of evidence provided, as well as the outputs of the call for evidence, will be considered when assessing our performance under this criterion. When assessing the stakeholder criterion, it is imperative that the vast array of ESO activities and deliverables are assessed and considered, and therefore Ofgem and the Panel should consider all of the evidence provided from our diverse range of stakeholders at varying levels in their organisations, rather than solely relying on the Ofgem-approved stakeholder surveys which are reported by Role.

We would welcome further discussion with Ofgem to agree reporting requirements in advance of RIIO-2, to ensure that the relevant processes can be put in place.

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

We support Ofgem's proposal for the ESO to track how it is progressing towards the delivery of the consumer benefits set out in the CBA report. We believe that a combination of metrics and regularly reported evidence is a logical way of measuring this progress, as well as the completion of relevant deliverables. We note that the original CBA report only described consumer benefit on a yearly basis, but we are happy to report our progress on a six-monthly basis to show how we are progressing towards the delivery of the originally-stated consumer benefit, if this can help Ofgem and the Performance Panel to provide meaningful feedback and scoring on a six-monthly basis.

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

We support Ofgem's intention to rationalise and streamline the number of metrics. However, given that many of these topics will now be included as regularly reported evidence, this does not represent a significant reduction in reporting burden. We set out a (non exhaustive) list of the reports that the ESO must provide to Ofgem in our answer to ESOQ6. With the overall incentive pot size decreasing from RIIO-1 to RIIO-2, and experience of the scheme to date suggesting that significant incentive rewards are not achievable in practice, we are concerned that the resource required to provide reporting for the incentive scheme could outweigh the likely incentive reward.

We provide our views on each item of regularly reported evidence in the table below. We understand that this will form part of the "Demonstration of Plan Benefits" criterion, which we expand further on in ESOQ7.

Role	Regularly reported evidence	ESO view
1	Skip rates	<p>We have committed to provide more transparency of our real-time operational decision making, and therefore we will be happy to publish data on skip rates as Ofgem suggests. We recognise that this is something that stakeholders are keen to see, and have been developing the necessary tools to publish this data.</p> <p>However, we are concerned that the title "skip rates" is misleading. We would suggest that a better title would be "transparency of operational decision making", in order to be consistent with the relevant deliverables, and to avoid the negative connotations of the word skip which suggests that plant is not being dispatched in an economic way.</p>

Role	Regularly reported evidence	ESO view
1	Volume of renewables constrained	<p>We would broadly categorise dispatch actions into those where plant was dispatched in accordance with merit order, those where broader system management considerations were efficiently factored in, and those where a different action should have been taken. This will involve developing a process to categorise thousands of dispatch actions per day, which require a number of assumptions to be made. Although the published data will not be perfect, it should provide a step change in transparency compared to the data available at the moment.</p> <p>We are already engaging with market participants regarding the publication of this data, and this autumn we plan to publish a document setting out the proposed format of this data. In quarter four of 2020/21, we plan to publish daily data on the Data Portal which looks back at the previous day. In RIIO-2 (from quarter one 2021/22), as part of regularly reported evidence in our monthly reports we will provide a high-level summary of the month's dispatch actions, accompanied by a high-level narrative to explain the rationale for those instances where plant was not dispatched in merit order.</p> <p>We do not believe it is appropriate to report separately on volume of renewable generation constrained, but will look to include this in our existing Monthly Balancing System Summary (MBSS) reports⁴ where we already report the volume of constrained generation including the cost of wind and other generation constrained each month.</p> <p>The volume of renewable generation constrained is dependent on the system limitation driving the constraint and, in some cases, the type of connection a generator has opted for. Many renewable generators are connected on a non-firm basis (ahead of network re-enforcements) where they are restricted during certain transmission system outages specified in their Bilateral Connection Agreement. It is important to note that non-firm access is a customer choice and much cheaper and quicker than firm access.</p> <p>We have been working with the Transmission Owners (TOs) on the RIIO-2 Network Access Policy and the following key performance indicators (KPIs) have been proposed by the TOs that relate to this topic. Both KPIs measure lost network access due to transmission outages and connection agreements.</p> <ul style="list-style-type: none"> • Transmission connected generation - percentage of annual access curtailed by Bilateral Connection Agreements per annum - firm connections. • Transmission connected generation - percentage of annual access curtailed by Bilateral Connection Agreement per annum – non-firm connections.
1	IT system outages	<p>We are happy to report on the number and length of planned and unplanned outages for the critical national infrastructure (CNI) systems as regularly reported evidence on a monthly basis.</p> <p>We agree there is insufficient historical data to set suitable benchmarks. However, there is a clear consumer benefit to these systems having high availability, and so we are happy to report on these, but it would be disproportionate to introduce reporting on other systems given the number of other systems that exist and the less clear consumer impact of outages on these systems.</p>

⁴ <https://www.nationalgrideso.com/industry-information/industry-data-and-reports/system-balancing-reports>

Role	Regularly reported evidence	ESO view
		<p>Although it is not possible to set benchmarks for the current CNI systems, we expect the introduction of the new CNI systems as set out in our Business Plan to bring a step change to availability. We set out in the Business Plan that we've assumed our proposals will reduce unplanned outages to one hour per year. Once the new CNI systems are introduced, we would be happy to report their availability as a metric (using the one hour per year figure to set targets) rather than as regularly reported evidence, to track whether we're delivering the consumer benefit set out in the CBA report. However, many of these systems will not be introduced until the next business plan period.</p>
1	Savings from short term optimisation	<p>We are happy to report this as regulatory reported evidence on a quarterly basis. We will continue to report the savings in MWh because prices fluctuate as market conditions vary. Generators submit bid and offer prices in the balancing market so any figures we provide would have to be heavily caveated. The cost of wind generation generally varies between £65/MWh being the cheapest and £195/MWh being the most expensive. For simplicity, our trading team advises using average values of £78/MWh for constraint actions taken on wind and £55/MWh for other generation to give context to the figures we report on. This will be included in the regulatory reported evidence description. If more accurate figures are available, then we will use them and state the origin of the figure in the supporting narrative.</p>
1	Voltage excursions	<p>We are happy to report on this as regularly reported evidence on a monthly basis.</p> <p>Frequency is a national condition and can be very accurately measured at a small number of locations. Voltage however, is a localised condition and can vary significantly across the country depending on a number of system and network factors. We are also dependent on the accuracy of operational metering outside of our control, which requires an element of engineering judgement to validate.</p> <p>Our control centre utilises the full operating window to safely and efficiently manage Great Britain's voltage profile and have well-practiced techniques for identifying and validating voltage excursions. We therefore agree with Ofgem's proposal for this to be regularly reported evidence, rather than a metric.</p>
2	Diversity of service providers	<p>We are happy to report this as regularly reported evidence on a quarterly basis. We currently monitor quarterly balancing services performance and have suggested including the diversity of service providers in that report.</p>
2	EMR decision quality	<p>We welcome that Ofgem agree that the quality of decision making is an appropriate measure that can be used to inform performance assessments in this area.</p>

Context and key issues for consideration

In defining and applying this measure, it is important to be conscious and take account of the context and variables that affect decision making and the outcomes of the prequalification and disputes assessment process. The following points are of particular significance here:

- In assessing prequalification applications, the Delivery Body has to apply the Regulations and Rules issued by BEIS and Ofgem. Equally, Ofgem will have to apply these Regulations and Rules in determining Tier 2 disputes. The operation of EMR has shown that these Regulations and Rules are complex and that they are not always unambiguous but leave significant room for interpretation. In addition, the Regulations and Rules change regularly, adding to their complexity. This is evident in the large amount of queries the Delivery Body receives from applicants every year and the need for the

Role	Regularly reported evidence	ESO view
		<p>Delivery Body, BEIS and Ofgem to regularly seek professional legal opinion on the interpretation and application of the Regulations and Rules.</p> <ul style="list-style-type: none"> • Our customers are asking us for clarification of the Regulations and Rules, and we seek to provide as much clarity and guidance as possible. Ultimately though, only BEIS or Ofgem can provide an authoritative view on the policy intent where the rules leave room for interpretation. • Given the recognised scope for interpretation of the Regulations and Rules, it is entirely possible for Ofgem to reach a different conclusion despite the Delivery Body’s best endeavours and reasonable interpretation of the rules. • Given Ofgem’s role in the disputes process, it is understandable that we have not always received confirmation of how rules would be interpreted should a dispute reach Ofgem. Efficiency and better customer satisfaction might be achieved if the process to reach consensus on interpretation was improved. • Despite the above challenges and limitations, the Delivery Body has consistently delivered an excellent rate of successful decisions, averaging 99.9 per cent since the start of EMR. • It is recognised that this has been achieved partly due to Ofgem pragmatically grouping overturns by overturn reason, i.e. where multiple Delivery Body decisions are overturned based on the same failure reason, Ofgem have considered this as one overturned decision for the purpose of assessing our performance. The historical performance data shown in Table 45 of the draft determinations document reflects this approach. The total number of individual overturns was higher (2016/17: 10; 2017/18: 68; 2018/19: 16; 2019/20: 3).

Assessment of draft determinations

We welcome that Ofgem agree that quality of decision making is a key measure of performance. We note that, in proposing the quantitative performance expectation in the draft determinations, Ofgem seem to have assumed that “performance is largely within the ESO’s control” (draft determinations – ESO, p140). However, this view and the proposed expectations do not seem to take account of the limitations described above.

In the proposed expectations (Table 44), the range between the ESO being “below expectations” and “exceed expectations” both amount to an overall excellent decision rate of over 99.99 per cent accuracy.

In our response to the “Open letter on the Five-Year Review of the Capacity Market Rules” for the Capacity Market, published by Ofgem in September 2018, we highlighted that each prequalification application for assessment can be reviewed against 75 potential criteria, meaning that the Delivery Body could take up to 150,000 decisions annually (based on up to 2000 applications being received).

The current proposed metric means that if four of those decisions were overturned by Ofgem out of 150,000 decisions made, the ESO would be “below expectations”, whilst 2 would be considered as “exceeding expectations”. We do not feel that such a compact range allows for an appropriate decision making process on performance or recognises the current strong baseline of current performance.

Summary and proposed way forward

We agree that quality of decision making is an appropriate measure that can be used to inform performance assessments in this area, but we do not consider that a metric alone can act as a true outlier. The regulations and rules that the Delivery

Role Regularly reported evidence

ESO view

Body and Ofgem apply in reaching their decisions are complex, evolve continually and leave room for different interpretation.

To deliver better outcomes for customers, greater clarity of the rules and an appropriate process between the Delivery Body, Ofgem and BEIS for discussing matters of rule interpretation is required. Where relevant any joint interpretation could then be updated in associated guidance around the rules and/or taken to the “CM Advisory Group” proposed by Ofgem as part of the forward work plan in the “Consultation on Capacity Market Rules change proposals” published 22nd July 2020, to review, prioritise and make future rule change against that interpretation.

We propose an amended version of the performance indicators in the table below to be used, as part of a holistic assessment of performance, rather than a single metric. We would look to the Performance Panel to then use the metric to support their analysis against other supporting evidence and a narrative provided by the ESO in the assessment of overall performance. In determining the updated measures, we have assumed that Ofgem would continue to ‘group’ any overturns, where multiple Delivery Body decisions are overturned based on the same failure reason as is current practice.

Exceeding expectations	Meets expectations	Below expectation
<1.5 overturns per 1000 applications	1.5 – 2.5 overturns per 1000 applications	> 2.5 overturns per applications

We note Ofgem’s expectation that the ESO also provides a performance measure for Contracts for Difference (CfD) ahead of final determinations. We support this and our initial view is that the quality of decision making, as assessed through the proportion of overturned qualification decisions, could also be used for CfD. We will work with Ofgem to consider this and establish suitable expectations ahead of the final determinations.

2 Medium term demand forecasting Transmission Network Use of System (TNUoS) charges forecasting is a new reporting requirement for RIIO-2. We look forward to working with Ofgem, ahead of final determinations, to clarify what will be included and how we can best report on this

3 Consumer value from the NOA We are happy to report on this as regularly reported evidence on a yearly basis. This reporting can provide an indication of the value that options generate by encouraging options into the plan. It will also demonstrate that they may not be the best option despite generating value.

This will also enable tracking of boundary capability benefits, but cost benefits would be unrealistic to track. Many projects recommended will not deliver in the price review period but may prove to be very beneficial in the future.

3 Diversity of technologies We do not believe this is the right area to measure and query what value it will demonstrate. As our licence sets out that we should be technology agnostic, it would be beneficial to have a framework where all technologies can be included. However,

Role	Regularly reported evidence	ESO view
	considered in NOA	as we do not control the input or the output, setting a target would not be appropriate.
3	Future savings from operability solutions	We are happy to report on this as regularly reported evidence.

Figure 5: ESO views on regularly reported evidence

Internal costs

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

We do not agree with Ofgem’s approach.

As confirmed in the draft determinations document, the ESO’s pass-through funding model is intended to encourage us to be “proactive, forward-looking and ambitious” and “agile and ready to adapt to emerging issues”. This price control should support this through “funding arrangements that will allow the ESO to deliver what matters most for energy consumers and adapt quickly as priorities change”⁵. This is crucial given the innovation and the investment needed to continue the transition from an energy system designed for large, fossil-fuel generation to a flexible, low carbon, and decentralised system. However, Ofgem’s proposals for cost regulation will not achieve this.

We understand the principle behind the pass-through model. Given the relatively small scale of our internal costs compared to the benefits we can drive, we agree that a disproportionate focus on cost reduction should be avoided. It is crucial that the overall framework operates effectively to deliver the ambitious, proactive behaviours that stakeholders want from us, driving towards net zero at an efficient cost to consumers, rather than encouraging risk-averse behaviours.

The use of a subjective, ex-post assessment to drive these behaviours will be a significant challenge. The starting point for the cost assessment, which Ofgem refers to as an “efficient cost benchmark”, does not relate to efficiency nor does it reflect any benchmarking⁶. RIIO-1 levels of spending have been assumed to be the correct starting point despite the energy landscape having significantly changed since 2013.

As we expand upon in our answers to ESOQ20-22, the ESO will begin RIIO-2 facing the real and imminent risk of incentive penalty or cost disallowance based upon Ofgem’s arbitrary view of efficient costs. This will not encourage us to invest in innovative technologies to deliver our ambitious plan. Rather, Ofgem’s proposals will encourage us to delay committing to investments until we can be certain that Ofgem consider our proposed costs to be efficient. This will require the submission and re-submission of detailed project-level cost information on a six-monthly basis, delaying the start of projects and subsequent realisation of consumer benefits. As we outline in our answer to ESOQ20, where we are investing in innovative, first-of-a-kind solutions the issue is more acute. We do not consider the rewards under the incentive scheme to be sufficiently predictable to mitigate these risks and there is inadequate equity buffer for the ESO to take the risks. We have provided more details on the incentive scheme proposals in our answers to ESOQ4-8, and on financeability in our answers to ESOQ25-29.

Ofgem’s process encourages a low-ambition, low-risk approach from the ESO, contrary to the behaviours that stakeholders, including Ofgem, are calling for. The weak justification for Ofgem’s proposed efficient costs

⁵ Ofgem, RIIO-2 draft determinations - ESO, paragraph 1.5

⁶ We would expect a benchmark to consider the scope and context of this investment against examples from industry peers. Efficiency might be an assessment of our performance against percentile deviations from the mean time/cost to deliver. As they stand, the terms benchmark and efficiency are percentage reductions of our estimates based on the presence/absence of project management documentation (for capex) and an assumption that RIIO-1 levels are an appropriate default position (for opex).

exacerbates this effect; we will find it difficult to explain why costs have deviated from Ofgem’s “benchmark” if the benchmark itself cannot be explained.

To enable an agile, flexible and innovative ESO, and as set out in our answers to ESOQ20-22, the following changes are needed:

- Operating costs (opex). Ofgem and the ESO need to agree on a reasonable ex ante estimate based on robust analysis. Recognising that this is an estimate, there should be a process to ensure the ESO has the flexibility and the confidence to vary spending and invest in innovative, new projects. This must provide confidence that incremental and changed activities and spending will not be penalised. An appropriate mechanism would be a ten per cent materiality threshold or ‘dead band’ within which changes to cost will not be considered in the efficiency incentive.
- Capital expenditure (capex). The ex ante assessment of efficient cost levels needs to recognise that some systems are new and innovative and their specifications are not fully set out (and in many cases are not fully in the ESO's control as rules or participant requirements evolve). Therefore, instead of reducing the view of efficient costs, there should be an appropriate contingency added to these projects.
- External Assurance on IT&T expenditure. We would be prepared to retain an agreed external party to provide assurance that expenditure on IT&T capital projects is not inefficient. The reports could be provided to Ofgem who could use them to inform any assessment of efficiency.

We would be happy to work with Ofgem to develop these points.

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

We do not agree with Ofgem’s assessment.

We welcome Ofgem’s recognition that we have provided a good justification for our proposals and why they are in consumers’ interests. We also understand the need to scrutinise and challenge costs proposed under a price control to ensure value for money for consumers. We would like to reiterate that our Business Plan costs were tested for efficiency using historical and cross-sector benchmarking. Moreover, an additional one per cent annual efficiency challenge was applied to ongoing operational and shared costs. With a pass-through funding model, there is no automatic financial benefit to the ESO from inflating its forecast costs.

In some cases, Ofgem did not feel it had enough information to understand our proposed costs and therefore proposed a reduction, or that the costs should be considered further at a later date. In Annex 1 we provide additional evidence to support our proposals for the following costs to be included in Ofgem’s ex ante view of efficient costs:

- £14.8 million of ESO opex that was subject to an efficiency reduction
- £3.9 million of property capex that was subject to an efficiency reduction
- £3.7 million of non-IT capex that was considered too uncertain to assess now
- £1.1 million HR and non operational training costs that were subject to an efficiency reduction.

We welcome the fact that Ofgem has already agreed to increase its view of efficient ESO opex by £3.2 million, following the submission of further evidence.

In other areas, Ofgem has not provided sufficient information in time for us to understand the rationale behind its totex assessment. This includes £14.2 million IT and Telecoms (IT&T) opex that was subject to an efficiency reduction⁷, which we have therefore not been able to include in Annex 1.

Where we have been able to gain additional clarity since the draft determinations were published, it is clear that there were inconsistencies in the way that costs were assessed and the proposed efficient cost arrived at. Without a properly-assessed and agreed baseline it will be impossible to track and assess our costs and whether they are efficient. More details are given in the sections below.

⁷ Ofgem, RIIO-2 draft determinations, ESO document table 22 row i

ESO capex – IT&T

IT&T capex is a major component of our plan and the foundation for a significant proportion of plan benefits. It is disappointing, therefore, to see the lack of rigour in Ofgem’s assessment of our proposals. It is misleading to use the word benchmark in relation to Ofgem’s view of efficient costs as no benchmarking was carried out in Ofgem’s cost assessment, and the ESO’s extensive cost benchmarking appears to have been discounted.

As such we cannot support Ofgem’s proposed efficient cost of £91.4 million compared to our Business Plan proposal of £162.4 million, with £71 million of costs to be assessed at a later date⁸.

Prior to submitting our Business Plan, Ofgem did not make clear what evidence was required to enable it to perform an assessment. We now understand that the consultants commissioned by Ofgem to assess investments used an approach based on the Association of Project Management (APM) standards. The issues with this assessment are as follows:

- **The APM process doesn’t assess the relative priority or importance of the investment within the Business Plan.** It requires waterfall project delivery documentation to develop a red/amber/green (RAG) assessment. The consultants appear to have undertaken a qualitative review of the artefacts (e.g. a work breakdown structure or project plan) and, in recent meetings, were not readily able to explain the reasons for a particular RAG assessment for our proposed projects. Where they did, the assessment appeared to have high levels of subjectivity. It is therefore difficult to have confidence that costs proposed in the draft determinations reflect efficiency in a meaningful way.
- **An approach being applied to capex and opex that does not reflect the stages of investments.** Typically in an investment, initial start up costs are opex. When Ofgem does not include part of the opex in its ex ante view of efficient costs, this encourages the delay of the entire project. Only a relatively small amount of opex is at the end of an investment which relates to decommissioning and training. An example is investment 120 - Interconnectors⁹. £0.7 million of £3.1 million (31 per cent) capex investment has been excluded from Ofgem’s ex ante view of efficient costs. This means that, of the £0.4 million opex associated with this investment, £0.1 million (31 per cent) has also been excluded. The majority of this opex would be spent at start up but because it has been excluded, the ESO will not be able to commence the project until more confidence can be achieved that these initial costs will not be considered inefficient – at least a six-month process. Internal investment committees would be unable to sanction any projects where Ofgem has not approved the start-up expenditure.
- **An inconsistent approach being applied when assessing shared IT projects across National Grid Electricity Transmission (NGET), National Grid Gas (NGG) and the ESO.** The graphic below shows that the same investments received different red, amber or green ratings depending on the entity being assessed. When questioned, Ofgem’s consultants were unable to explain this inconsistency. Our Business Plan set out National Grid’s approach to shared investments and our costs were predicated on this model.

⁸ Ofgem, RIIO-2 draft determinations, ESO document, table 22 row f

⁹ Please see Annex 4 – Technology Investment Report of our RIIO-2 business plan

<https://www.nationalgrideso.com/our-strategy/business-planning-riio/riio-2-final-business-plan>

	NGET				NGG				ESO			
	Justification	Project Definition	Definition of Resources	Cost confidence	Justification	Project Definition	Definition of Resources	Cost confidence	Justification	Project Definition	Definition of Resources	Cost confidence
Infrastructure - Business Systems	Hosting	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	LAN infrastructure	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	WAN infrastructure	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - CNI	T2 CNI Infrastructure Upgrades and maintenance	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	Development and replacement of VDI hosting solution	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	Middleware refresh	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	Modern Workplace - End User Compute	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
SSR	Safety Incident Management and related SHE systems	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	Emerging Technologies	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Data Analytics & Visualisation	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	RSA Archer Upgrade & Refresh	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Digital Communications	InfoNet refresh	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Digital Communications	NG.com refresh	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Digital Communications	Stakeholder and Internal Apps	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Business Services	Payroll	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Business Services	Enterprise Content Management	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Business Services	RPA Platform	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Case Management	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
UK Finance	ERP (S/4HANA)	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Finance & Corporate	Business Planning	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Digitising Learning	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Treasury Management System Enhancements	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	SuccessFactors (MyHub) Upgrade and Enhancements	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Finance & Corporate	IS Provisioning and Software Licence Asset Mgt	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	IT Tools for Planning and Delivery	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Legal Support Systems	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Agile Development Tooling	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Travel & Booking	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	ARIBA System Replacement	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Finance & Corporate	Fieldglass Replacement	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Business Services	SAP Concur Upgrade & Enhancements	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Business Services	Purchase to Pay Upgrade and Enhancements	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	CNI End User device replacement	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	Application compatibility	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	National Grid CNI communication rooms and tertiary Data C	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	CNI Monitoring Solutions	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	Automation	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	Identity and Access management	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - CNI	CNI Virtual Desktop Infrastructure	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	DR Capabilities	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	NOC	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	Data Management / Archiving -Tool/Licensing/Implementation	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	Digital IT Operations	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	Cost Analytics, Management and Transparency	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	Discovery Tooling	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green
Infrastructure - Business Systems	Service Now upgrade and Capability improvements	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Amber
Infrastructure - Business Systems	Platform Maintenance (Kernel/OS, DB Upgrades)	Amber	Amber	Amber	Amber	Amber	Amber	Amber	Green	Green	Green	Green

Figure 6: RAG assessment of shared IT projects for different National Grid entities

We are concerned about the implications of this cost assessment approach for the objectives of the ESO’s regulatory framework and the behaviour it could drive. It is important to remember the aim of the pass-through funding model, which is to encourage us to be proactive, ambitious, and agile. As such, rather than securing income (as with an ex ante allowance), the assessment of capex should support the ESO to progress investments in a timely fashion at an efficient cost to consumers. However the process as set out by Ofgem will encourage behaviours that directly contradict this objective. For example:

- The consultants’ assessment criteria drive a behaviour to submit artefacts for the sake of achieving a RAG score rather than to demonstrate the value of this investment in relation to consumer benefits or emerging issues. This may also be inconsistent with the agile delivery methodology appropriate for that project.
- Where there is a material difference between the requested costs and Ofgem’s proposed efficient costs, this will encourage us to delay the investment and iterate the assessment process until the requisite levels of funding confidence are achieved. With a six-monthly iteration, the delays could be significant. For example, investment 220 – Data and analytics platform¹⁰, is not included in the ex ante steer. We plan to invest £8.9 million capex and £2.2 million opex in the first two years (£25 million totex over five years). There is a strong push from generators, stakeholders, regulators (UK/EU), distribution companies, the Energy Networks Association, and the Energy Data Taskforce to invest here. Ofgem’s open letter on RIIO and digitalisation strategies¹¹ asked for progress against deliverable outcomes in collaboration with stakeholders. The draft determinations contradict this letter as they drive behaviours to focus on documentation to achieve cost confidence, rather than progression. It increases our risk in commencing this project prior to agreeing a revised steer. This could result in delays of potentially 12-18 months.
- The use of innovative technologies or approaches is discouraged, because Ofgem’s cost assessment approach penalises uncertainty without taking into account the novelty or level of innovation in the proposed solution. This means that at every stage, all risks will need to be eliminated before moving to the next phase, with contracting strategies adopted which leave no residual risk and favour large

¹⁰ Please see Annex 4 – Technology Investment Report of our RIIO-2 business plan

<https://www.nationalgrideso.com/our-strategy/business-planning-riio/riio-2-final-business-plan>

¹¹ <https://www.ofgem.gov.uk/publications-and-updates/review-and-next-steps-riio-digitalisation-strategies>

vendors who can bear (and price-in) that risk. This is likely to significantly increase the costs to consumers of these projects. An example of this is investment 110 - Network control¹² which did not qualify for Ofgem's ex ante view of efficient costs. We proposed to invest £8.1 million capex and £0.9 million opex in the first two years (£30 million totex over five years). This project would give the control room visibility of grid operations in a distributed environment, with increased participants generating at or below one megawatt, and would support over £200 million consumer benefits¹³. The solution has no marketplace precedents and requires innovative visualisation of current and predicted energy flows and has a strong relationship with the data platform. The cost assessment process and incentive scheme encourage us to delay investment until funding confidence is achieved – again resulting in significant delays and increased costs due to the required contracting strategy.

- The inconsistent approach to shared IT investments is a barrier to shared investments going ahead. Where Ofgem has disallowed a portion of a shared investment for NGET or NGG, the ESO will not be able to progress its share of that investment alone, and certainly not at our Business Plan costs which reflected the synergies and scale economies of the shared service approach. Conversely, if the ESO is allowed an investment that other entities are not, the ESO proceeding with this spending raises a risk of cross-subsidy from the ESO to other National Grid entities. For example, 'agile development tooling' was assessed as green for ESO, amber for NGET, and red for NGG (included in Figure 6). These tools are fundamental for successful agile project delivery. If ESO progresses independently, we risk missing the economies of scale for these tools. In instances such as wireless or local area network infrastructure (to enable internet gateway features as we adopt greater application programming interface/data exchange models), we risk subsidising other areas of the group that use these services and share in the allocation.
- Every investment has had an element set aside for future assessment, but Ofgem has not made clear which cost lines are considered uncertain. This could result in us resubmitting cost data for the full project for approval on a six-monthly basis, which contradicts the aims of the pass-through model to encourage an agile ESO.

We share the desire to deliver innovative technology delivery at pace and avoid a bureaucratic process of re-submitting project documentation prior to commencing development. We therefore propose a set of improvements which should be applied to the ex ante cost assessment and subsequently to the six-monthly process to update Ofgem's view of efficient costs. We would be happy to work with Ofgem to develop these points, which are:

- The ex ante assessment of efficient cost levels needs to recognise that some systems are new and innovative and their specifications are not fully set out (and in many cases are not fully in the ESO's control as rules or participant requirements evolve). Therefore, instead of reducing the view of efficient costs, there should be a contingency added to these projects.
- Ofgem should define the data points needed to achieve a green RAG assessment and a high level of confidence in the required ex ante efficient funding. This will improve the process efficiency for Ofgem and ESO and require fewer iterations.
- We seek clarification on how programme delivery may achieve an upside for incentive purposes. For example: say we propose an investment for £100 million, it is benchmarked at £80 million because it doesn't have APM documentation, and we deliver it efficiently for £110 million avoiding an issue that would have raised costs to £120 million. In this example, there could be a potential incentive penalty as we exceeded the benchmark yet performed well to mitigate a £10 million issue. Ofgem should provide detail on how this will be considered in the incentive assessment.
- Ofgem should include a method to assess investments that will be delivered using a DevOps or Agile methodology.
- Ofgem should ensure there is consistency in the RAG assessment of shared investments (which are currently different between the ESO, NGET and NGG despite being based on the same source data), and also between investments.

¹² Please see Annex 4 – Technology Investment Report of our RIIO-2 business plan <https://www.nationalgrideso.com/our-strategy/business-planning-riio/riio-2-final-business-plan>

¹³ Activity A1 in our Business Plan and cost-benefit analysis report

- There should be a clear process to progress shared investments within the differing funding regimes for the ESO, NGET and NGG without causing delays or cross-subsidisation concerns.
- The cost assessment process should consider project capex and opex consistently, and reflect the need for these costs at different stages of the project life cycle.
- Ofgem should ensure that the process does not require every investment to have to go through the six-monthly review and restrict the number of investments that have small elements of cost set aside for future consideration, potentially applying a materiality threshold to the process.
- Ofgem need to provide details of how investments that are 100 per cent opex have been treated in the draft determinations.

To support these changes, we would be prepared to retain an agreed external party to review our IT costs and provide assurance that they are efficient.

As agreed with Ofgem, we will submit updated investment profiles in late September to provide additional detail to support a revised RAG assessment and benchmark value for key investments.

ESO opex – IT and Telecoms (IT&T)

Ofgem assessed £128.2 million proposed funding in our Business Plan and proposed an efficient level of £97.3 million, with £14.2 million deemed inefficient and £16.7 million to be assessed at a later date¹⁴. At the end of August we received further information on how these costs have been assessed. This has not allowed us enough time to analyse Ofgem’s information so we are unable to agree with Ofgem’s assessment.

We understand from Ofgem’s consultants that ongoing hosting and maintenance (run the business or RTB) costs were considered using the same assessment approach as resources. However, RTB reflects hosting and licence charges and is not comparable to resources, so this approach is not appropriate.

Furthermore, we understand that the underlying RTB assessment is based on a three-year average from 2018/19 to 2020/21. The three-year average does not reflect the year-on-year growth trend. Our Business Plan will increase our use of subscription services driving an increase in opex. As we move to our target architecture, we will incur dual running costs until legacy environments are fully decommissioned. While our operating costs must remain efficient, we need to reflect the reality of an ambitious technology transformation plan that is focused on consumer benefit rather than a cost reduction strategy for a mature and established IT estate.

Finally, we understand that IT&T investments 190 - Workforce and change management tools and 420 - Auction capability¹⁵ had amber RAG assessments from Atkins. However these were considered not applicable for Ofgem’s ex ante view of efficient costs as they have no capex¹⁶. We do not know whether these proposed costs – £6.4 million in total – are considered inefficient, will be assessed at a later date, or have been missed altogether. This illustrates our wider concern that project investment hasn’t been assessed as a totex view. We would welcome clarity on this point from Ofgem.

The improvements that we set out above to address flaws in the cost assessment process for IT&T capex also apply to IT&T opex.

ESO opex – non-IT

Late in August we received an explanation of how Ofgem’s proposed efficient costs of £135.6 million compared to our Business Plan proposal of £150.4 million was derived¹⁷. We welcome the opportunity to respond to this assessment and Annex 1 sets out, in detail, further justification for the following costs that Ofgem did not believe to be efficient:

- £14.8 million ESO opex for Roles 1, 2 and 3, and supporting operational costs
- £1.1 million HR and non-operational training costs

¹⁴ Ofgem, RIIO-2 draft determinations, ESO document, Table 22 row i

¹⁵ Please see Annex 4 – Technology Investment Report of our RIIO-2 business plan

<https://www.nationalgrideso.com/our-strategy/business-planning-riio/riio-2-final-business-plan>

¹⁶ Ofgem, RIIO-2 draft determinations, ESO document, Table 50

¹⁷ Ofgem, RIIO-2 draft determinations, ESO document, Table 22 row e

We welcome the fact that Ofgem has already agreed to increase its view of efficient ESO opex by £3.2 million following the submission of further evidence.

We would like to highlight some inconsistencies in Ofgem’s approach to assessing these costs:

- In many cases, Ofgem assumed that average RIIO-1 levels were an appropriate starting point for these costs. We do not agree with this, given the significant changes in the energy landscape that have taken place. RIIO-1 average costs are not necessarily accurate comparators for the activities we deliver today. Examples include:
 - Our Control, Support and Review team costs were compared to an eight-year RIIO-1 average that included only four years of restoration costs. This has the effect of understating this team’s costs in RIIO-1 average which resulted in Ofgem proposing an “efficiency reduction” based on this inaccurate view.
 - Our proposed innovation team costs have been compared to an eight-year RIIO-1 average whereas the team only existed for six years of RIIO-1, again understating the RIIO-1 costs.
 - EMR has been compared to the last three years of RIIO-1. However, this period is not an appropriate comparison for the workload expected in RIIO-2 due to the increased volume of participants expected, the additional support and guidance those participants require and the significant forward plan of government regulatory change (UK and Europe) that we must deliver. Further, Ofgem has stated that it wants the Delivery Body to provide a greater level of customer support and to facilitate all future change faster¹⁸. This cannot be done with historic funding levels.
- In some areas, small amounts (less than £0.5 million) have been removed to return activity spending to RIIO-1 average levels. This creates a less certain baseline from which the ESO must explain costs for an immaterial ‘saving’, contradicting the purpose of a pass-through model. These are shown in Table 2 of Annex 1.
- Non-IT opex associated with the delivery of IT&T capex has been treated differently to the capex. When the capex review has set costs aside for future assessment, the related business (or non-IT) opex has been subject to an efficiency reduction rather than also being set aside. This leaves IT&T investments with insufficient opex to proceed in a timely way, and raises the risk that project costs will be deemed inefficient and therefore subject to an incentive penalty or disallowance. For example IT investment 460 – Restoration¹⁹ has been set aside for future assessment but its opex has received an efficiency reduction of £0.1 million in 2022/23, equivalent to one in four FTEs. This assessment was not based on the appropriate number of FTEs for the project but simply an inconsistent response to the IT&T capex assessment.

As set out in our answer to ESOQ19, Ofgem’s assessment has the effect of arbitrarily reducing our Business Plan costs. The result of the draft determinations would be that our teams will start RIIO-2 with the presumption from Ofgem that a portion of our costs are inefficient, and therefore at risk of disallowance or incentive penalty. This, coupled with an unpredictable incentive scheme, will discourage timely investment to deliver the activities in our Business Plan.

To counter this effect, we propose that:

- Ofgem and the ESO should agree a robust ex ante estimate of efficient costs.
- Ofgem and the ESO should agree a process around this estimate to ensure the ESO has the flexibility and the confidence to vary spending and invest in innovative, new projects. This should recognise that the starting figure is an estimate and that costs can change, particularly for new and innovative projects. An appropriate mechanism would be a 10 per cent materiality threshold or ‘dead band’ within which changes to cost will not be considered in the efficiency incentive.

¹⁸ Ofgem ‘Adjustments to the EMR delivery body allowances’ September 2019 https://www.ofgem.gov.uk/system/files/docs/2019/09/decision_on_adjustment_to_allowances_for_the_emr_delivery_body_0.pdf Executive Summary p. 4: “We... encourage the DB to increase opex spend if appropriate to deliver the requested service to EMR applicants”

¹⁹ Please see Annex 4 – Technology Investment Report of our RIIO-2 business plan <https://www.nationalgrideso.com/our-strategy/business-planning-riio/riio-2-final-business-plan>

- The process should allow new activities to be included without an overly granular, project-level reporting requirement.
- The reporting process should be at a sensible level of aggregation and be proportionate. This should include a materiality threshold of around 10 per cent, as set out in our answer to ESOQ7.

We would be happy to work with Ofgem to design an approach that achieves these aims.

ESO capex – non-IT

Ofgem proposed an efficiency reduction of £3.9 million ESO property capex due to insufficient information being provided to justify this investment²⁰.

It also set aside for future assessment:

- £2 million of electricity national control centre (ENCC) capex
- £1.7 million capex to support mandatory investments to implement the Electricity Balancing Guideline Regulations, namely the Trans-European Replacement Reserves Exchange (TERRE) and the Manually Activated Reserve Initiative (MARI)²¹.

We disagree with this assessment and in Annex 1 we set out further details to justify these £7.6 million costs.

Business support costs (BSC) (excluding IT&T)

We do not agree with Ofgem’s proposed reduction of £1.1 million for HR and non-operational training²². This reflected specific investment to upskill our workforce in line with our people, culture and capability approach that underpins our Business Plan. Annex 1 sets out further details on the value of this investment and how we have ensured the proposed costs are efficient.

ESO totex – conclusion

In conclusion, we do not fully understand, and cannot agree with, Ofgem’s assessment of our totex. Our Business Plan costs were extensively tested for efficiency and reflect our best forecast of what is required to deliver the significant consumer benefits in our plan. Ofgem’s opinion that an efficient level of costs is lower than our plan is not based on robust analysis of the resources needed to deliver the ESO’s outputs today. It will drive risk-averse behaviours and delay beneficial investment.

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?

While the incentive scheme is structured such that the ESO’s deliverables are assessed by Role, Ofgem’s proposal to include costs in this Role-based assessment presents some challenges. Our analysis indicates that around half of the ESO’s costs do not fit meaningfully under one role. This is because:

- Many investments do not easily split by Role. This applies for much IT&T capex. There is in some instances an alignment between the investment and the role (e.g. investment 180 – enhanced balancing capability²³ aligns to Role 1). However, our approach is to maximise the efficiencies of technology through the implementation and reuse of platforms (e.g. investment 220 – data and analytics platform²³). This means that it is not straightforward or accurate to consider these costs only against one Role. In our Business Plan we aligned these to a primary role as required by Ofgem, but we would expect all Roles to contribute to the development of these platforms and benefit from their capabilities. The initial establishment of the platform (hardware, software, support, etc.) would benefit all roles.
- The proportion of costs allocated to Roles will change over time. Ofgem’s proposed split of capex by 45 per cent, 35 per cent, 20 per cent to Roles 1, 2, and 3 respectively only reflects the year 1

²⁰ Ofgem, RIIO-2 draft determinations, ESO document, Table 22 row g (property)

²¹ Ofgem, RIIO-2 draft determinations, ESO document, Table 22 row f (£3.7 million included for ENCC capex and project TERRE capex). This was classed as IT&T capex by Ofgem.

²² Ofgem, RIIO-2 draft determinations, ESO document, Table 22 row k

²³ Please see Annex 4 – Technology Investment Report of our RIIO-2 business plan

<https://www.nationalgrideso.com/our-strategy/business-planning-riio/riio-2-final-business-plan>

allocations. In year 2 our Business Plan proposes a 33 per cent uplift in Role 1 capex with a corresponding reduction for Role 2. This means that the year 2 incentive assessment, under Ofgem's proposal, would be based on an inaccurate view of the costs per Role.

- Shared business support costs, along with other supporting operational cost areas such as the ESO's customer and stakeholder, strategy, innovation and regulation teams, cannot be meaningfully split across the three Roles. The activities under these costs support all the ESO's Roles. If the costs are divided three ways, then changes to these costs will simply need to be explained three times, once for each Role. Any assessment of efficiency or inefficiency in these costs will be triplicated across the three Roles, skewing the incentive result.

Forcing all costs under Roles undermines transparency and would hinder a meaningful assessment of the ESO's costs. It also risks the incentive result being skewed as the value for money assessment for each role won't be based on a true picture of costs, with this effect being tripled across the three Roles.

We would be happy to work with Ofgem on an alternative proposal that enables value for money in the incentive scheme to be assessed at a reasonable aggregation of costs. The approach needs to be consistent with the reporting framework under the new arrangements. Options include:

- Reporting costs on an aggregate level (not split by Role), with a portion of the incentive pot allocated to the value for money assessment, separate to the Role-based incentive performance assessment
- Reporting a sub-section of costs by Role level which would be included in the Role-based incentive performance assessment, with a separate value for money assessment (and separate pot) for the other costs
- Excluding costs that are not Role-specific from the value for money incentive assessment.

We think there would be value in including a de-minimis threshold and a materiality threshold of ten per cent for cost reporting, so that the reporting burden and cost assessment are proportionate and do not inappropriately drive the ESO to focus on spending within or below Ofgem's ex ante view of efficient costs.

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

We are content that a portion of our proposed costs have not yet been assessed but do not agree that Ofgem's proposals strike the right balance between allowing the ESO to progress beneficial investments at pace, while setting a robust and reliable ex ante cost steer.

As with the ex ante cost assessment, it will be critical to provide further clarity and improve the process to update Ofgem's view of efficient costs to avoid driving cautious behaviours. To date Ofgem has provided little guidance on how costs will be assessed in this six-monthly process nor how the efficiency of these proposed costs will be measured. We need clarity on this point in order to provide the required information to Ofgem and avoid delays in the approval of investments that could benefit consumers. We would also like to understand the level of cost granularity that will be required from these new submissions when they are assessed. For Ofgem to scrutinise each IT project on an individual basis would seem disproportionate; it is the overall effectiveness of spending that should be assessed. If Ofgem were to micromanage the ESO's costs at an activity or project level this would have a disempowering effect and drive risk-averse behaviour, hindering our ability to innovate, invest and facilitate the energy transition.

Our comments under ESOQ20, where we set out the improvements that need to be in place, apply. We ask Ofgem to:

- define the data points needed to achieve a green RAG assessment for costs to be included in the benchmark
- as part of this, include a method to assess investments that will be delivered using a DevOps or Agile methodology
- ensure that capex and opex are treated consistently when they support the same project
- ensure there is consistency in the RAG assessment of shared investments (which are currently different between the ESO, NGET and NGG despite being based on the same source data), and also between investments

- ensure that the process considers project capex and opex together. Projects will incur both capex and opex (based on accounting rules), and investments and benchmarks need to consider the totex proposal.

We have outlined our concerns on the reporting burden in our response to ESOQ6 and ESOQ39 and would be happy to work with Ofgem on this and the points above.

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

We agree that Ofgem should have the power to disallow demonstrably inefficient or wasteful expenditure (DIWE) and we acknowledge that Ofgem has sought to clarify their policy both with the introduction of a cap on disallowance and development of ESO disallowance principles. We welcome the intent to provide clarity. However, the proposals are not proportionate and, rather than providing ex ante certainty, demonstrate the significant unremunerated risk faced by the ESO.

The draft determinations make no funding provision for asymmetric disallowance risk based on it being comparable to that of the networks for whom no additional provision is made. However, disallowance risk is highly material for the ESO. The materiality is far greater for the ESO than networks and there is also a greater likelihood of disallowance.

Materiality

Ofgem's claim that a 10 per cent cap brings the ESO's exposure in line with other networks²⁴ is not tenable.

Any disallowance would always be expected to be at the margin, i.e. Ofgem may decide a proportion of expenditure is inefficient but is unlikely to say all expenditure is inefficient.

The ESO's totex relative to that of the networks is around ten times greater. Based on the ESO Licence Model published in draft determinations, totex represents 96 per cent of average regulated asset value (RAV) in 2021/22²⁵. Figure 4.3 of the ESO draft determinations presents totex as 75 per cent of RAV for the 5 years of RIIO-2 compared to network ratios comfortably below 10 per cent and closer to 5 per cent of RAV. Disallowing 10 per cent of RAV for a network is equivalent to disallowing more than a network spends a year, a completely untenable prospect. In contrast, for the ESO this might be little more than 10 per cent of expenditure, or £25 million, due to its low RAV and high totex-to-RAV ratio.

Ofgem's Licence Model calculates an average profit after tax for the ESO of £5 million for the first two years. Retaining an option to disallow expenditure of five times this value cannot be considered proportionate. A disallowance cap of one per cent of RAV would be more comparable to the quantum of conceivable exposure faced by networks. Such a cap would represent a similar exposure to disallowing 10 per cent of the expenditure of a network.

Likelihood

We recognise Ofgem's intent to use disallowance as a backstop used by exception, but that exception is far more likely to occur for the ESO than for networks due to the following:

- the nature of the ESO expenditure
- the weaker incentive on totex faced by the ESO
- the 'ESO disallowance principles'.

An agile, proactive, innovative ESO might be expected to spend significant sums exploring options, on bespoke IT Investments and first-of-a-kind projects. Some ideas and investments will yield benefits for consumers while others may not. When reviewed with the benefit of hindsight, such expenditure is at greater risk of disallowance than network asset replacement, repair or maintenance expenditure.

For networks, the Ofgem personnel performing any review of efficiency are fully aware that the network has been directly exposed to an incentive of 30 to 50 per cent on every pound spent, whether above or below allowances. The strength of such an incentive is such that there is generally no need to even consider disallowance because no rational network would ever choose to be inefficient or wasteful. Under such

²⁴ Ofgem, RIIO-2 draft determinations, ESO document, para 4.66

²⁵ Totex of £240.9 million and average RAV £251.6 million ((225.8 + 277.3)/2)

circumstances, and over the full range of a 30-50 per cent incentive strength, disallowance is genuinely a backstop option that would not be expected to be used.

The same cannot be said for the ESO. Ofgem has added a consideration of efficiency into the incentive scheme but it is an entirely evaluative scheme, with a particular lack of clarity on how the efficiency assessment will operate, such that the ESO cannot predict the consequences on the incentive outcome of an additional pound saved or spent. Absent a definitive and clear linkage for the ESO between additional spend and financial consequence Ofgem personnel may be more inclined to suspect inefficiency and to perform an efficiency review at which point costs may be disallowed.

As explained in KPMG's report, included as Annex 2 to this response, the premise that Ofgem will only disallow inefficient expenditure is highly questionable. Determining whether expenditure is efficient or inefficient is a highly complex task made more difficult by the lack of obvious benchmarks for much of the expenditure the ESO is likely to incur.

We note Ofgem's comment that it has not disallowed any ESO expenditure to date. The presence of the totex incentive scheme will be one of the reasons for that. The move to a pass-through model fundamentally changes the regime and Ofgem has demonstrated a tendency to disallow costs elsewhere where that incentive scheme is not used. Disallowance for the Smart Data Communications Company (DCC) has been up to 2.2 per cent while the ex-post review used to set the transfer value in the offshore transmission operator (OFTO) regime (tender rounds 2,3 and 4) has seen an average disallowance of 6.1 per cent.

Ofgem's ESO disallowance principles are intended to reassure and provide greater certainty but actually demonstrate the greater risk faced by the ESO because:

- the principles are specific to the ESO
- they inappropriately place the burden of proof on the ESO to demonstrate efficiency
- they indicate a very granular assessment.

Only the ESO has disallowance principles. The further guidance to explain DIWE is welcome but might have been expected to apply to all networks. There is no need for ESO-specific principles if the risk is the same as for networks, so the development of tailored guidance is a clear demonstration that the risk is not the same. Only the ESO will have additional licence obligations requiring us to create and submit a number of internal expenditure policies for approval.

Contrary to the guidance given to SONI which explicitly states that the normal burden of proof is reversed, certain elements of the ESO guidance place the burden of proof on the ESO to demonstrate efficiency rather than Ofgem to demonstrate expenditure is inefficient or wasteful. Two examples are the requirement to provide and demonstrate consistency with certain policies and the statement "reasoned and justified cost increases may be efficient". Even "reasoned and justified" increases only hit the hurdle of "may be" efficient leaving the ESO unclear on just how high the hurdle of demonstrating efficient expenditure is.

Further, the principles suggest a highly granular and detailed scrutiny of ESO costs, well beyond the remit of a backstop tool. Ofgem describe travel and expenses as a "key" internal expenditure policy. These costs are less than £2 million per year and may be even less in a post-COVID world. The imposition of additional licence obligations, plus a requirement to demonstrate consistency with the policy for such an immaterial part of the cost base, cannot be reconciled with the description of disallowance risk as "in line" with other networks, or a backstop power only.

Amendments to the specific text of the disallowance principles may reduce some of our concerns but will not fully address the fact that the likelihood of disallowance is greater for the ESO than for networks. Any such amendments would do nothing to address the nature of ESO expenditure being higher risk, the unclear nature of the incentive scheme, or the very fact that only the ESO is subject to the disallowance principles.

The ESO is therefore exposed to far more asymmetric disallowance risk than networks from both a quantum and likelihood perspective. As explained in the KPMG report, the CMA was categorical that such asymmetric risk exposure must be compensated, even if disallowances can be limited to demonstrably inefficient expenditure. Our response to ESOQ27 explains that this risk needs to be compensated through the provision of additional funding and ESOQ29 explains the impact of such additional funding on the RORE.

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

We welcome Ofgem's view that the Unified Cost Allocation Methodology (UCAM) approach is appropriate and that National Grid should continue to be able to amend cost drivers to best ensure an appropriate allocation of cost. We recognise the need to have appropriate controls and balances in place in the light of the ESO having a different remuneration model to NGET and NGG and are keen to discuss what those measures should be.

National Grid already provides extensive data to Ofgem on its cost allocations including the details and impact of every cost centre for which the cost driver has changed from one year to the next, with an explanation of the reasons. This reporting is already in place and so does not represent an incremental change but we are happy to engage with Ofgem if that reporting can be improved in some way.

We don't agree that the ESO Board should review and sign off any changes to cost drivers. For the ESO Board to confirm that the ESO's allocation reflects its proportionate use of shared services, it would need to understand the usage and allocation of costs for the other UK regulated businesses. This is beyond the Board's remit and not appropriate.

Further, it is inappropriate for one entity (ESO) to have greater influence over the allocations than another (NGET, NGG). Such a governance structure could impair the independence of the process and increase the risk of cross subsidy. Equally, it would be inappropriate for all three Boards to approve the allocations as that risks becoming a negotiation process rather than a fair and independent allocation process.

To ensure compliance with licence obligations such as the need to avoid any cross subsidy it is important that allocations are set objectively using an independent process rather than being a negotiated outcome. Those allocations and the processes that determine them also need to be transparent. We believe the existing reporting requirements and processes are an effective control to address the risk highlighted but remain willing and keen to discuss with Ofgem any suitable further improvements that can be made, including improving the visibility, and justification for any changes to, allocations to the respective Boards.

Finance

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

We welcome Ofgem's decision that ESO should have a bespoke cost of debt mechanism, which is broadly in line with that which we recommended in our December Business Plan.

We note that Ofgem's proposed methodology references a credit spread over SONIA (Sterling Overnight Index Average rate) using an arithmetic mean over the period, whereas SONIA loan conventions would use a geometric mean. However, we do not believe that changing the methodology would materially affect the result.

We also note the use of iBoxx utilities indices for calculating credit spread, which reduces the credit spread by 7 basis points compared to our use of BBB rated UK non-financial indices as suggested in our December Business Plan. These indices are made up of less than half the number of bonds than the iBoxx indices proposed in our Business Plan and so are more likely to be exposed to individual companies or bonds. However, we consider it also provides an appropriate credit spread for the purpose.

We note Ofgem's methodology to re-calculate the three-year credit spread each year. We consider that the frequency of changing the credit spread should align to the expected frequency of refinancing debt. Ofgem's proposed methodology of using an annually updated three year trailing average rate suggests that the ESO would refinance a third of its debt each year. In practice a smaller company like ESO would likely raise a large tranche of debt, most likely in the bank market, followed by smaller amounts as required. The tenor of ESO's debt would typically be 7 years so even if debt were to be refinanced in tranches the tenor of such debt would be 5 to 7 years. Also, refinancing total debt over a 3-year period would not be cost effective and our estimate of 10 basis points transaction costs was based on debt raised for a 5-year period, not three. Our view is that a credit spread fixed at the time of raising debt would more fairly reflect the ESO's cost of debt. For this reason, we consider a fixed spread based on a three-year trailing average and fixed at the start of the price control period, would better reflect the ESO's real cost of debt.

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

We believe this question is specific to the allowance for equity financing of the RAV and this response focusses on the allowed cost of equity accordingly. Our thoughts on additional sources of allowance for equity risk are covered in ESOQ27 on additional funding.

Ofgem has followed its 3-step approach and determined a Capital Asset Pricing Model (CAPM) implied cost of equity of 5.28 per cent. While we do not agree with the assumptions used for the generic parameters of risk-free rate, debt beta, and total market return we do not generally offer additional evidence on these topics in this response but simply refer Ofgem to the evidence presented by the Energy Networks Association both to the CMA Ofwat PR19 review, and to Ofgem as part of the responses to the draft determinations and provided previously.

With regards to debt beta, we do however note the words of D. Robertson in his paper (Re-Estimating Beta) published alongside draft determinations, “Debt betas are rather difficult to estimate but for a large well run regulated monopoly there are good arguments that Debt beta should be very low or indeed zero.” This view is consistent with that previously expressed that a debt beta of 0.05 would be more appropriate than the 0.125 used by Ofgem.

This response focuses on Ofgem’s choice of 0.45 for the asset beta of the ESO. It firstly considers the evidence presented and data points in the CEPA report and their range of 0.45 to 0.50. It then considers additional data points relevant to the asset beta for the ESO before considering Ofgem’s choice to use the bottom of the CEPA range for asset beta.

This value chosen of 0.45 is too low for a number of reasons:

- CEPA uses an incorrect value for the asset beta of NATS (En Route) plc (NERL), the air traffic services provider, in its range
- CEPA uses the asset beta of NERL as a ceiling to their range when it is inappropriate to do so
- Insufficient weight has been given to the CMA final findings for SONI of an asset beta of 0.60
- CEPA mistakenly suggests regulatory discretion reduces systematic risk when it more likely increases it
- An adjustment is required for the additional systematic risks faced by the ESO under the evaluative incentive scheme
- There is no recognition that the ESO regulatory framework is new and untested and so represents higher regulatory risk that should be remunerated
- Ofgem has inappropriately chosen to ‘aim down’ and use the bottom of the range proposed by CEPA.

Incorrect NERL asset beta

The CEPA report compares the ESO to regulated networks and asset-light businesses. CEPA views the ESO to have higher risk than regulated networks and “slightly lower” than NATS (En Route) plc (NERL), the air traffic services provider.

In determining its range of 0.45 to 0.50, CEPA takes the low point of its own range for NERL of 0.50 to 0.57 but, as CEPA recognises, the CMA determined the range for NERL to be 0.52 to 0.62 with a debt beta of 0.05. Ofgem proposes a debt beta of 0.125 and CEPA calculates this to give restated asset beta values of 0.54 to 0.64. The actual asset beta awarded was 0.57 (0.59 at a debt beta of 0.125) so, based on the inputs considered by CEPA, if NERL is to be considered the high point of the range it should actually be 0.59, not 0.50. It is inappropriate for CEPA to substitute their own view of the range for asset beta of NERL for that actually determined by the CMA.

Comparison to NERL

In developing its view that the ESO asset beta is “slightly below” NERL, CEPA expresses an unsubstantiated view that the ex-post qualitative assessment of totex is likely to reduce systematic risk. This judgement is used to say lower systematic totex risk for the ESO offsets the higher risk from incentives. There is no strong basis on which to form this judgement and indeed in its separate report ‘RIIO-2: Beta estimation issues’ page 27, CEPA make a contradictory statement that “The directional impact on beta from total expenditures mismatches is not clear cut.” Amending the totex judgement would probably result in the ESO being deemed

at least comparable in risk to NERL. The lack of clarity, objective discussion or analysis in the CEPA report is covered in more detail in the KPMG report included as Annex 2 to this response.

The KPMG report goes further by stating that the systematic risk of ESO is likely to be higher than that of NERL. KPMG notes a number of differences between NERL and the ESO that would point to greater systematic risk for the ESO including:

- NERL's charges do not impact the most vulnerable in UK society whereas the ESO's do
- NERL's incentives are not comparable to the highly evaluative ESO incentives
- NERL's objectives relate to the operation of its own system whereas the ESO relates to the operation of the electricity system as a whole

KPMG concludes that the asset beta of NERL is a relevant comparator, given its asset light nature, but should not be an upper bound. They adopt it as the lower end of the range.

SONI is the closest comparator

CEPA's report²⁶, and subsequently Ofgem's draft determinations, suggest little regard can be had to the CMA findings for the SONI appeal, saying "The SONI precedent is more difficult to interpret as the CMA did not make an independent assessment of the asset beta" (page 26). This position is flawed on two grounds:

- The CMA did review evidence on the asset beta for SONI.
- The position is inconsistent with placing significant weight on the asset betas of the regulated networks despite them not having yet been subject to an independent CMA assessment of their asset beta.

A reading of the CMA findings shows that beta was reviewed in some depth by the CMA with a consideration of the arguments put forward by both parties, resulting in a conclusion that the value of 0.6 was not wrong.

The report also quotes part of paragraph 7.188 of the CMA findings. The full text of that paragraph reads as follows:

"We have concluded that the UR had not fully considered the risks associated with either the revenue collection functions or the asymmetric risks in the Price Control Decision both on the level of the WACC and more generally in its approach to the financeability of SONI. The UR made an assumption of a higher beta to reflect higher operational gearing, but it did not do any analysis which would have demonstrated whether this higher beta was sufficient to cover the risks faced by SONI."

It is clear that the CMA did review the asset beta evidence presented by both parties, and what that beta represented, that the asset beta did not reflect additional risks that the CMA subsequently awarded additional funding for, and that having awarded those monies to compensate for unremunerated risks, such as the revenue collection function and asymmetric risk, the beta value of 0.6 was not subsequently adjusted by the CMA. Given the significant amendments made to the financial package of SONI, the CMA's choice not to amend the asset beta of 0.6 more likely reflects an active decision rather than it simply considering the number not to be wrong.

It should also be recognised that the value of 0.6 already takes account of the regulated nature of SONI's activities. As the CEPA report acknowledges on page 26, the 0.6 was a balanced consideration of the asset beta of regulated network companies (0.3-0.4) and competitive firms (0.7-0.8) with 0.6 selected to address higher operational gearing.

This is the first time Ofgem has set a price control for the legally separate ESO. As such it is reasonable to expect Ofgem to consider a range of relevant inputs. In this regard, it is surprising that no weight is attached to the CMA precedent for SONI despite it being the closest comparator to the ESO, and that CEPA and Ofgem chose instead to focus only on regulated networks, NERL, and the comparators used as part of the NERL appeal (ENAV the Italian air traffic control company and three airports) which are of far less relevance to the ESO than SONI.

As the NERL determination itself used networks as a comparator, the risk of doubling up on the weighting given to networks is considerable.

The decision not to place any weight on SONI, as the closest comparator to the ESO, is based on an assertion that the CMA had not performed an independent assessment of the asset beta of SONI. To use this

²⁶ RIIO-2: Electricity System Operator Returns (9 July 2020)

argument not to place weight on the asset beta of SONI while placing weight on those of the energy networks is inconsistent and unjustified. The CMA has considered asset beta evidence for SONI recently but has not recently reviewed the asset beta of an energy network.

The CMA precedent of an asset beta for an electricity system operator of 0.6 therefore represents a suitable anchor point when considering the asset beta to apply to the ESO.

The impact of regulatory discretion

CEPA comments that a beta of 0.55 would be consistent with some evidence and regulatory precedent but picks a lower value, partly based on “policy updates by Ofgem that significantly constrain [the ESO’s] cost and incentive risk”.

As explained in the KPMG report, CEPA appear to have taken the view that regulatory judgement dilutes exposure to systematic risk, indicating regulation to be a “passive process largely indifferent to the environment in which judgements are made”.

KPMG explain that regulators exercise judgement actively in the context of the political, societal, economic and financial market factors present at the time. Regulators, and indeed appeal bodies, need to be sensitive to those factors, not least to maintain the continuing political sustainability of the regime and to protect it from perceived loss of societal legitimacy. Changes in regulatory stance have big impacts on investors and it is naïve to think that regulators are not affected by their wider environment.

They go on to say, “The direction of systematic influences is clear – regulators tend to take tougher stances when consumers are feeling poorer, more sensitive to the level of consumer bills and less tolerant of utility profitability. Under this view, it is no coincidence that the emergence of a radically tougher regulatory stance on issues such as the cost of capital coincided with a sustained period of austerity.

It appears plausible that evaluative regulatory process is a strong source of positive beta.”²⁷

Incentive risk is not constrained by the policy decision to make it fully evaluative. While the value at risk in the planned RIIO-2 framework is reduced, the incentive is to be qualitative, determined by Ofgem, and essentially beyond the control of the ESO. An evaluative scheme is unpredictable, as evidenced by Ofgem’s decision for the 2019/20 scheme where the views of the Performance Panel were set aside to replace a score of a high 3 with a low 3 for role 2 and in doing so, turned an anticipated reward into a penalty for that role. By moving to an evaluative approach Ofgem has significantly increased the regulatory risk faced by the ESO. The variable elements of its performance (incentive outcome and disallowance) are subject to regulatory discretion which, as explained, increases systematic risk.

Given this increase in systematic risk, CEPA’s decision to disregard higher values of asset beta based on the Ofgem policy updates is therefore flawed. When you also consider CEPA’s view that the relationship between totex and beta is “not clear cut,” the top end of the range should be higher.

Additional systematic risk from the incentive scheme

The KPMG report included as Annex 2 to this response compares the systematic risks of SONI to those of the ESO. They find that the systematic risks of the ESO, excluding the incentive scheme, are comparable to the full systematic risks of SONI.

“Taking these two tables together indicates that the non-ESORI component of systematic risk exposure for NG ESO may be comparable in scale with the totality of SONI’s systematic risk exposure.

It should be recognised that the scope of ex-post disallowance arrangements for the ESO are broader than they are for SONI both in terms of the proportion of expenditure the arrangements cover (100 per cent for the ESO) and the flexibility for regulatory judgement built into the respective guidance and principles, as described in section 3.1.

Consistent with the conclusions in KPMG’s November 2019 report for the ESO, an asset beta estimate of 0.6 for the non-ESORI component of the ESO’s systematic risk exposure would seem appropriate.”²⁸

They go on to explain that an uplift to the SONI asset beta is required for the additional ESO incentive scheme risk. They determine the required uplift to be 0.14 and therefore conclude that a corrected asset beta for the

²⁷ KPMG: Review of NG ESO risk and remuneration under Ofgem’s RIIO2 draft determinations (p13)

²⁸ KPMG: Review of NG ESO risk and remuneration under Ofgem’s RIIO2 draft determinations (p22)

ESO should be 0.74. This can most simply be attributed to taking the SONI asset beta of 0.6 as a base and adding the additional ESO incentive adjustment.

Increased risk of a new regulatory regime

Investors tend to be cautious about investing in a new and untested regime. The ESO RIIO-2 financial package is the first of its kind and might be expected to require a novelty premium and there is regulatory precedent for doing so. The former Department of Energy & Climate Change accepted that the new regulatory regime that had been introduced for subsidising renewables in the UK should incorporate a ‘novelty premium’ of 25 basis points to the cost of capital, on the grounds that there might be ‘uncertainty associated with how the regime and institutions would work’²⁹.

Further, in its findings on the SONI appeal the CMA noted, in paragraph 7.368, “We consider that there will inevitably be some regulatory risk during the development of a new regime, such as that for SONI.”

Given the heightened role of ex-post assessment and regulatory judgement within the ESO control, investors are likely to be concerned about how the regime will operate. The most practical way for Ofgem to reflect this increased regulatory risk would be to aim up within an updated range for asset beta rather than aiming down.

Choice of the bottom of the range

As explained in this response, the CEPA range of 0.45 to 0.50 is too low. It is an error for the range not to include the asset beta of the closest comparator, SONI, of 0.6. Further, the KPMG report explains why a value of 0.74 might be more appropriate. Taking NERL as the low point, and 0.74 as the high point would give an updated range for asset beta of 0.59 to 0.74, with the lower end just below the closest comparator of SONI and the high end reflecting the additional systematic risk from the incentive scheme.

Ofgem has relied on the advice of CEPA for its estimation of beta and has chosen to pick the bottom of the flawed range of 0.45 to 0.50. No ESO-specific evidence or arguments are presented other than a couple of observations we consider to be of limited relevance.

First, Ofgem briefly compares risk between RIIO-2 and RIIO-1. Such a comparison is of limited relevance and flawed. There was no consideration of an asset beta for a separate ESO when the RIIO-T1 control was set. The ESO was a, financially, small part of NGET at the time and the focus of the review was the TO activities and risks. Also, as explained above, the increased use of regulatory discretion indicates increased rather than reduced systematic risk.

Secondly, Ofgem comments that Oxera’s analysis of companies for a comparative analysis of risk³⁰ applied a cut-off of the seven companies with 6 or more matching risk characteristics. However, rather than expanding the analysis to incorporate more comparators Ofgem ignores the companies with six or more risk characteristics and selectively chooses the five (of eleven) companies with five risk characteristics that have the lowest beta values and observe those five to have an average beta of 0.455. Such a coincidental value adds no weight whatsoever to the asset beta Ofgem selected:

- If the additional 5 data points are added to the companies with more matching risk characteristics, the average observed beta drops from the 0.91 presented in Oxera’s report to 0.71.
- The Oxera report details 11 companies with five common risk characteristics and not just the five selected by Ofgem. The six not selected by Ofgem have an average beta of 0.90. If all 11 companies are added to the data set the average becomes 0.78.

We welcome Ofgem engaging in the beta analysis presented and note that a less selective choice of comparators would give an asset beta in excess of 0.7. Such a value is well above the range used by Ofgem but consistent with the range included here of 0.59 to 0.74, and KPMG’s suggestion of 0.74.

Ofgem’s choice to ‘aim down’ to the bottom of the range is both unsubstantiated and at odds with their approach to the beta of network companies where they have opted for the middle of their range.

²⁹ Department of Energy & Climate Change (2013), ‘Annex H: Modelling Assumptions: Changes to modelling assumptions in response to Draft Delivery Plan Consultation responses and other evidence’, 19 December

³⁰ NGESO financial price control parameters for RIIO-2 <https://www.nationalgrideso.com/document/153396/download>

The proposal to aim down is all the more surprising given that the published licence model shows that Ofgem expect additional equity of £58.6m to be injected during the RIIO-2 period. This represents a 62 per cent³¹ increase in the equity invested in the ESO. In previous price controls, periods of significant RAV growth have been used by Ofgem to aim up on the basis of an 'investment focus of the review', not to aim down.

Summary

In summary, the allowed return on equity of the ESO should be higher. Ofgem has relied on a poorly justified range for the asset beta proposed by CEPA and inappropriately chosen the bottom of that range.

The range proposed by CEPA sets an inappropriate and incorrectly valued ceiling based on the asset beta of NERL and fails to include the asset beta of the closest comparator of the ESO, namely SONI. The SONI CMA appeal outcome of 0.6 represents the most appropriate start point for the asset beta. The ESO incentive scheme then drives a further increase in systematic risk, above that of SONI, such that an asset beta of 0.74 can be justified.

Ofgem has not set out a relevant basis on which to aim down within the range despite its modelling anticipating additional equity to be injected of £58.6m, a 62 per cent increase in equity invested. Recognising the premium investors typically require for a new regulatory regime, and precedent for such a premium, Ofgem should aim up rather than down.

This required adjustment to the asset beta is in addition to further updates to the parameters of the cost of equity that are relevant to all parties, such as the risk-free rate and total market return.

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

We do not agree that the proposals for additional funding in RIIO-2 adequately reflect the ESO's role.

Whilst Ofgem do not offer any rationale behind their choice of additional funding value, we understand that it is a judgement based on CEPA's analysis of capital requirements under the scenario where TNUoS revenue collection risk has been removed from the ESO³². Whilst we agree the removal of TNUoS cash flow risk will ultimately reduce the ESO's cash risk, we find Ofgem's position, and its evidence for it, lacking in rigour. This has resulted in:

- Inadequate provision for the direct costs of the working capital facility (WCF).
- Inadequate funding for the revenue collection role.
- No compensation for asymmetric risk expected losses.
- Inadequate funding for contingent equity.

Working Capital Facilities (WCF) fees

Ofgem states that it has implied an allowance of £0.6 million per year using CEPA's analysis for the ESO revenue collection role during RIIO-2 with reduced TNUoS cash flow risk. CEPA says in its report 'based on the ESO's current facility the annual commitment fees would be in the region of 0.3 per cent'. This estimate is based on CEPA's assumption of a much lower facility size of £165 million - £260 million and assumes that current pricing levels could be maintained throughout the RIIO-2 period. We disagree with CEPA's assumptions for the facility size and fixed fees for the following reasons:

- The ESO procured a facility for a minimum three-year term based on the regulatory framework in place at the time, including the presence of TNUoS risk. As a minimum, this facility should be fully funded to the end of the three-year term.
- Whilst TNUoS cash flow risk will transfer to the onshore TOs for revenues billed from April 2021, the ESO will carry the K correction term for 2020/21 through until recovery by March 2023. Facilities will need to be in place to manage through this transition, particularly given the material under-collection that we expect as result of a reduction in demand through the COVID-19 pandemic.

³¹ Initial equity of £94.7m based on RAV of £236.7m and RIIO-1 gearing of 60 per cent (values from published licence model).

³² RIIO-2: Electricity System Operator Returns (July 2019) page 6 Table B

- Ofgem’s recent approval of CUSC modification CMP345 and subsequent approval of a further modification CMP350, has placed a significant additional cash flow burden on the ESO, which will not be fully recovered until the end of March 2022.
- Our current WCF was sourced prior to legal separation of the ESO in April 2019. The rates reflect market pricing at that time. It is unlikely that in the current economic environment debt could be sourced at such favourable rates.

For these reasons, in our response to ESOQ28 we have recommended an appropriate level of funding for the first two years of the RIIO-2 period, of £0.7m per annum, and suggest that fees for the subsequent years be subject to an uncertainty mechanism. This would allow the ESO to recover its expected costs for 2021/22 and 2022/23 and also provide the flexibility for Ofgem and the ESO to respond to market developments, such as any changes to BSUoS charging arrangements.

We also note CEPA’s analysis of basis risk, which indicates an annual average interest surplus of £4.9 million (£3.5 million excluding basis risk associated with TNUoS revenue collection). We cannot place any reliance on CEPA’s currently modelled basis risk since it does not incorporate any impacts of planned changes to time value of money. In fact, we find the modelling of the current status quo to be misleading due to an assumption that bad debt would be recovered on a one-year time lag with a time value of money uplift based on WACC, creating an annual interest surplus of £3.5 million. In reality, no regulatory mechanism currently exists for the ESO to recover bad debt with or without a time value of money adjustment. We also find some of the cash flow phasing to be unrealistic. For example, it is assumed that cash outflows for supplier failure occur in the final month of the year, with recovery from the first month of the following year. We would be happy to work with Ofgem to assess the true basis risk based on all new arrangements for time value of money and the timings of revenue collection.

Revenue Collection Role

We note CEPA's methodology for remunerating the revenue collection role by assuming equity to support a suitably sized working capital facility. We have the following comments:

CEPA assumes a capital base for the ESO in the range £165 - £260 million. Whilst this could be an appropriate range once the RIIO-2 arrangements are embedded, the graphs in Figure 7 and Figure 8 show a range of much higher forecast requirements in the first two years of RIIO-2. The section above details the reasons why our cash requirements are higher than those considered in setting the draft determinations. CEPA’s sizing of the equity capital requirements associated with our revenue role similarly fails to consider the scale of the capital required as a result of the transitional nature of the TNUoS risk transfer arrangements and the additional cash flow burden the ESO is suffering as a consequence of COVID-19.

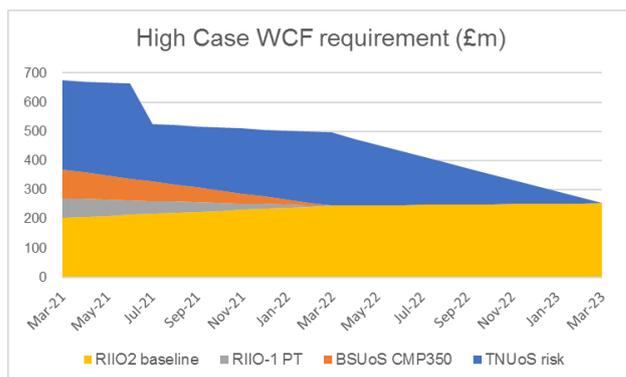


Figure 7: High case WCF requirements as impacted by RIIO-1 price control

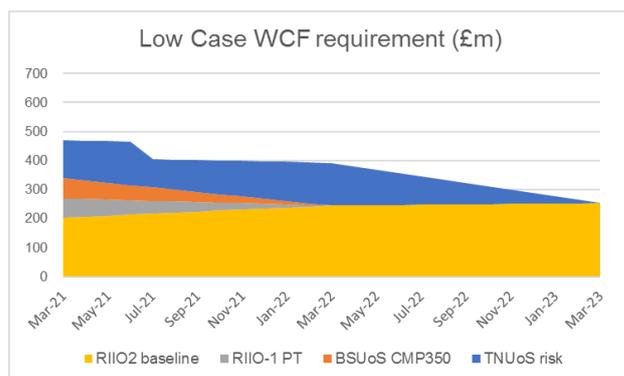


Figure 8: Low case WCF requirements as impacted by RIIO-1 price control

The charts above show how elements of the RIIO-1 price control will impact on the size of the WCF requirement in the first two years of the RIIO-2 price control. The high and low case are based on the range of values we expect for TNUoS and BSUoS under collection in 2020/21, which are both impacted by COVID-19. The three main items which are carried forward from the RIIO-1 price control are:

- **TNUoS cash collection shortfall.**

The RIIO-1 balance to be recovered in RIIO-2 relates to the K correction term as well as funding of supplier under-forecasting which is recovered in the demand reconciliation in July 2021. Both these cash risks have been severely impacted by COVID-19, and we are managing a range of scenarios to ensure that adequate facilities are in place to maintain liquidity. Our forecast ranges both assume a 3.3 per cent full year reduction in demand against tariff forecasts for Non Half Hourly (NHH) revenues and a range of 10 per cent to 20 per cent reduction for Half Hourly (HH) revenues, which have been more severely impacted. The K correction term is assumed to be recovered in line with current RIIO-1 methodologies i.e. a two-year lag.

We have also assumed a range of supplier under forecast in relation to billing cash flows. The low case assumes the current supplier forecast position does not change, where HH revenues are over forecast by 10 per cent and NHH are under forecast by 9 per cent. The high case assumes a 5 per cent under recovery for the full year. This billing under collection will require funding until July 2021 until the demand reconciliation billing is settled.

- **BSUoS collection shortfall related to CMP345/CMP350**

Changes in demand because of COVID-19 have resulted in extremely challenging balancing conditions, higher forecast balancing costs and volatility of charges across settlement periods. Ofgem has approved CUSC modifications to allow deferral of charging a proportion of 2020/21 balancing costs to suppliers and generators until 2021/22. The ESO is required because of this to fund the deferral until costs can be recovered in full by March 2022. The ESO's liability to fund costs will be capped at £100 million.

- **RIIO-1 pass-through costs**

Following legal separation of the ESO, revenue relating to certain TNUoS related pass-through costs continued to be part of NGET's allowed revenues whilst the costs were incurred by ESO. We understand that the ESO will recover these costs under the RIIO-1 closeout adjustment process but until such time, the ESO requires £66 million to fund them.

We consider that the capital base for the revenue role should be increased in the first two years of the RIIO2 Business Plan period to reflect the higher WCF requirements in line with our forecast cash flows. This would more fairly reflect the capital base and provide adequate remuneration for the equity that would be needed to underpin the WCF.

We understand CEPA's rationale that the equity portion of the capital base should be remunerated at the marginal cost of equity. We do not agree though, that a risk-free return on capital would equate to the same risk-free rate (RFR) adopted in the allowed return on equity. The RFR in the allowed cost of equity is based on a long term 20-year gilt rate, whereas a prudent equity investor would realistically need to have money available to invest at much shorter notice. We could reasonably forecast the requirement to provide additional equity within a one to two year horizon, so suggest that a one to two year gilt rate would more fairly approximate the RFR that an investor would otherwise expect to earn. Since the shortest tenor for Bank of

England published gilt rates is five years, we have used this to compare to a 20-year gilt rate and note that the shorter-term debt would increase the marginal cost of equity by 39 basis points³³.

The impact on the additional funding required of updating the facility size and risk-free rate value is presented later in this response.

Asymmetric risk expected losses

Our response to ESOQ23 explains why the asymmetric risk of cost disallowance is disproportionately high and more likely than a disallowance for the networks. Two revenue adjustments are required for asymmetric risk. First, additional funding is required to offset the mean expected losses. This adjustment returns the ESO to a position where it can expect to earn its allowed returns rather than expect to underperform. Second, the ESO will require contingent equity to ensure it can finance more significant losses.

The SONI CMA appeal considered it appropriate to award an allowance of three per cent of the expenditure subject to asymmetric risk. Since all of the ESOs totex is subject to this risk it is appropriate to apply the three per cent to this total. This adjustment is covered in more detail in the KPMG report and results in an additional funding requirement of £6.9 million per annum. As explained above, this additional funding does not increase equity returns beyond the allowed level, it returns the ESO to a position of expecting to achieve the allowed return on an average basis.

The impact of asymmetric risk on contingent equity is covered below.

Contingent capital

CEPA agrees with the ESO that in principle it is appropriate to consider the contingent capital that underpins the additional risks the ESO faces that are not funded by a return on the RAV. They estimate a range of £0 million - £25 million of equity capital would be required for a prudent notional entity to maintain financeability. This assessment of equity capital is too low for the following reasons:

- CEPA agrees that additional allowances should be provided for exposure to asymmetric cost disallowance risk, to allow a notionally efficient entity to be able to earn its cost of capital³⁴. However, they state 'this rationale no longer applies to the ESO as Ofgem has proposed to incorporate costs into an incentive regime that provides both upside and (more limited) downside'. In our response to ESOQ23 we explain that a significant asymmetric disallowance risk remains for the ESO in RIIO-2 in addition to the risk of a penalty from the incentive scheme, both of which could occur simultaneously. It is implausible that no equity capital would be needed for asymmetric disallowance risk and that therefore the ESO should not be funded for this risk.
- We do not agree with CEPA's assessment that in relation to each category of risk we identify 'a plausible case can be made that no provision would be required'. Whilst we accept that the risks identified may be of low risk and high magnitude, we do not believe the low end of the range should be zero, since this would fail to recognise the risks at all.
- In Ofgem's aiming down at the bottom end of the range for additional funding we could conclude that none of these additional risks have been funded at all resulting in a mean expectation of failing to achieve the required cost of capital and having no contingent equity to fund any experienced losses.
- KPMG in their report estimate the level of contingent capital to be £75 million³⁵ which would provide stakeholders with the assurance that the company would have a base level of financial sustainability. They explain 'This would give stakeholders reason to suppose that the ESO would be robust to potential severe systemic issues affecting its performance for a period long enough to allow it to remedy them'.

Margin cross check

Whilst CEPA has used an approach to determine a range of appropriate additional funding based on remunerating contingent capital, they agree that 'approaches based on applying an overall margin may be

³³ Based on BoE published gilt rates 08/06/2020 per Ofgem's draft determination's WACC Allowance Model

³⁴ RIIO-2: Electricity System Operator Returns (July 2019) page 5 'Where a regulated company is explicitly exposed to cost disallowance asymmetry as part of a sculpted incentive regime it may be appropriate to provide an additional ex ante allowance to ensure that a notionally efficient entity would expect to earn its cost of capital.'

³⁵ KPMG: Review of NG ESO risk and remuneration under Ofgem's RIIO2 Draft Determination (p20)

useful as a higher-level crosscheck'. However, the CEPA report itself does not offer such a cross check. Ofgem does claim that with several adjustments to the definition of earnings before interest and tax (EBIT) margin the ESO can achieve a target margin of 10 per cent. We disagree with Ofgem's position and outline in our answer to question ESOQ29 why we find Ofgem's EBIT adjustments to be flawed. In summary, the ESO financial package outlined in these draft determinations provides for a margin on average over the RIIO-2 period of 4.5 per cent. This is significantly lower than the range of 10-15 per cent we suggested would be appropriate based on the evidence presented in our December Business Plan³⁶.

For all the above reasons, we do not agree that the additional funding of £1.9 million proposed by Ofgem provides a fair proposition for the ESO or reflects the roles of the ESO.

ESO alternative view of CEPA model

Based on the evidence we have presented, we have updated the CEPA analysis of total potential annual cash return range for the ESO. Our analysis was based on the following:

- For 2021/22 we set the capital base for the revenue collection role at £550 million. This value is assumed to be both the low and the high end of the range since the facility is committed and required at this level until March 2022.
- In 2022/23 we used our forecast range of cash flows as outlined in Figure 7 and Figure 8 above, as we would expect to procure a facility to cover this range of risk (£323 million – £374 million).
- For subsequent years, we assumed a requirement of £260 million based on a reduction in our current facility size of £290 million following transfer of TNUoS cash risk to the onshore TOs. We did not use a range of values because the assumed equity would be underpinning the full facility size.
- We increased the lower end of the contingent capital range to £36 million to recognise a plausible loss the equity holder could expect to suffer. We based this on a two-year incentive loss of £12 million, a one-off cost disallowance of 10 per cent of average RIIO-2 RAV (£30 million), offset by an average RIIO-2 annual profit after tax of £6 million.
- We increased the higher end of the contingent capital range to £75 million in line with the estimate made by KPMG in their report.
- We adjusted the risk-free rate downwards by 39 basis points to reflect the marginal cost of equity being based on the expected loss of an investor needing to invest at short notice.
- We have made one addition to the CEPA methodology. We have made provision for a mean expected loss for asymmetric risk of £6.9 million. CEPA did not include this adjustment based on their assumption that there is no material asymmetry but as discussed in ESOQ23, this is not the case. As explained in KPMG's report³⁷, this additional remuneration is required to cover the shortfall in expected returns compared to required returns.
- Note, to help with clarity and transparency we have not updated the CEPA calculations to reflect the returns on equity capital suggested in our response to ESOQ26

The result of the update to the CEPA analysis is shown in Figure 9 below:

		CEPA (£m)	ESO (£m)					
			2021/22	2022/23	2023/24	2024/25	2025/26	Avg
Additional ex ante allowance	Low	1.3	7.1	5.2	4.7	4.7	4.7	5.3
	High	4.6	12.1	10.3	9.1	9.1	9.1	9.9
Mean expected loss for asymmetric risk			6.9	6.9	6.9	6.9	6.9	6.9
Total additional ex ante allowance	Low	1.3	14.0	12.1	11.6	11.6	11.6	12.2
	High	4.6	19.0	17.2	16.0	16.0	16.0	16.8

³⁶ ESO RIIO-2 Business Plan Annex 5 – Finance report (9 December 2019) Overall margin benchmarking page 40

³⁷ KPMG: Review of NG ESO risk and remuneration under Ofgem's RIIO2 draft determination – section 4.1.1.2 Corrected estimate for required remuneration for asymmetry

Figure 9: ESO alternative view of CEPA analysis

Adjusting the CEPA analysis to incorporate our alternative assumptions indicates that on average over the RIIO-2 period, the range of additional funding should be £12.2 million - £16.8 million. This compares to additional remuneration for the revenue role and contingent equity in KPMG’s report of £14.9 million³⁸.

As outlined in our December Business Plan, we consider a reasonable cross check to be whether a 10 per cent EBIT margin can be achieved. Based on draft determinations an additional £15 million funding would be needed to achieve this benchmark. This sits comfortably within the range suggested by our updated analysis. In fact the lower end of our range would provide adequate additional remuneration if the asset beta were to be adjusted in line with our comments in ESOQ26.

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?

Ofgem’s proposal for an ex ante allowance of £0.6 million to cover costs associated with the WCF does not adequately compensate the ESO for the costs it will incur. We consider an allowance of £0.7million for each of the first two years would be needed to cover costs and then future allowances should be set through an uncertainty mechanism. Our reasoning for this is set out below.

Figure 10 below shows the costs associated with the provision of our working capital facility that need to be covered by the additional funding allowance of £0.6m. The arrangement fee is fixed, whilst the commitment fee varies to reflect the committed but undrawn balance on the WCF. These fees are not covered by the time value of money which the ESO would receive for regulatory timing differences in cash flows. Additional variable costs are incurred on drawn balances.

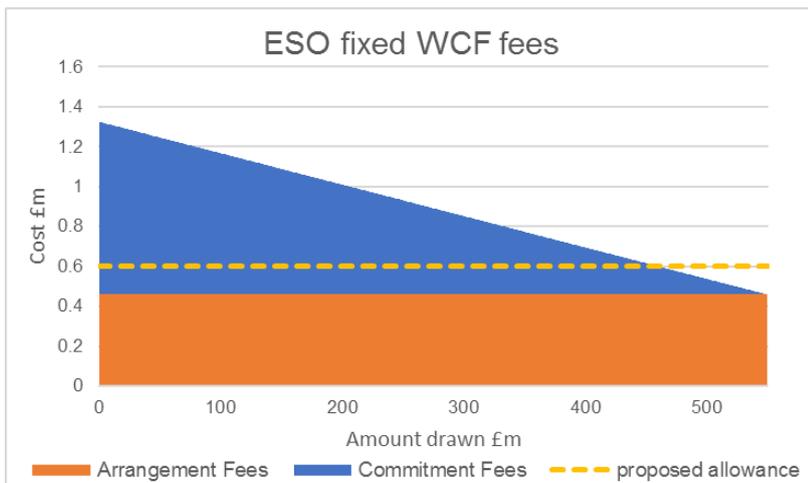


Figure 10: ESO fixed working capital facility fees

The arrangement fee is fixed over the term of the contract. Whilst there is an option for the ESO to extend the current facility beyond the initial 3-year term, we have assumed recovery of the arrangement fees over the initial term since there is no guarantee that the lending banks would extend the facility. In addition to this the ESO’s requirements may change depending on industry developments (e.g. BSUoS charging changes) which would make it necessary to procure a differently sized facility, which would likely have different fixed fee rates. The commitment fees vary according to the undrawn balance so make it difficult to provide an ex ante allowance that would fairly reflect costs being incurred. The above chart illustrates that an allowance of £0.6 million would not be sufficiently accurate for the RIIO-2 period. Whilst we understand that the proposed remuneration would be to recover the costs of a smaller facility following the decision to transfer the TNUoS cash flow risk to the onshore TOs, we consider this would not be appropriate for the full RIIO-2 period for two reasons.

³⁸ KPMG: Review of NG ESO risk and remuneration under Ofgem’s RIIO2 draft determination. Contingent equity funding £1.3million (p20), Revenue role £6.7million (p28), asymmetric risk £6.9 million (p20)

Firstly, the ESO entered its current financing arrangements prior to any notion that Ofgem were planning to remove cash flow risk from the ESO. For this reason, we consider it would be appropriate to fund the cost of the larger facility for 2021/22, allowing the ESO to make arrangements for a suitably-sized facility to cover the known cash flow risks for the RIIO-2 period.

Secondly, the new TNUoS arrangements will take time to fully transition funding of the K correction term to the onshore TOs. The expected significant under collection in 2020/21 driven by lower demand because of Covid-19, will not under current arrangements be fully recovered until March 2023. Similarly, the impact of funding up to £100 million of BSUoS cost deferral under CUSC modification CMP345 will require a facility to be in place to manage this impact in 2021/22. We estimate that the under recovery for TNUoS and BSUoS charges in 2020/21 could be in the range of £216 million - £344 million, and consider it appropriate to be funded to have a facility in place to manage the recovery of these charges in the period up to March 2023.

Any situations where our WCF is drawn by less than £460 million would lead to an under recovery of the costs which are not covered under time value of money arrangements. Given the non-linear nature of WCF costs, current facility term and the time needed to transition to new arrangements, we consider that it would be more appropriate to set a revised allowance for the first two years with an uncertainty mechanism to set an allowance for future years. This would mean future allowances could be set to accommodate the revised costs of any new facilities and any changes to BSUoS charging arrangements. Based on our forecasts for cash flows over the first two years of the RIIO-2 period we estimate the fixed facility costs to be on average £0.7m per annum and consider this should be set as the allowance for 2021/22 and 2022/23.

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

The proposed arrangements do not allow the ESO to efficiently finance our activities. The equity proposition is inadequate and encourages risk-averse, cautious behaviours. Moreover, Ofgem’s proposals do not fund the working capital facility. We consider these points further below.

This response considers:

- whether the proposals fund the debt financing of the RAV
- whether the proposals fund the working capital facility
- the impact of the financial package on business and investment decisions
- whether the equity proposition is adequate.

We then consider the impact of the amendments discussed in our consultation response on the returns to total capital and Return on Regulatory Equity (RORE).

Debt financing of the RAV

Ofgem and CEPA have presented analysis of credit metrics to suggest the ESO is financeable. We agree the ESO has strong credit metrics and, consistent with the position expressed in our Business Plan, believe the ESO can service the debt used to finance the RAV. However, our modelling indicates that a sustained loss of £3.5 million to £4.0 million would be sufficient to move the ESO outside of investment grade metrics, so this position cannot be taken for granted.

We agree with Ofgem's decision to target a Baa1 / BBB+ rating for the notional business. The ESO's rating is underpinned by an assumption by the rating agency of parental support and a substantial £550 million working capital facility. Ofgem should ensure the ESO is independently financeable as a stand-alone entity so that it does not have to rely on parental support to achieve the required notional rating. In the ESO draft determinations Ofgem makes the assumption that if liquidity risk halves, the downward notches included in the rating assessment for the ESO will also be halved. This assumption overstated the rating benefit of the changes to date and reflects a misunderstanding of how the rating process operates. Moody's have subsequently updated their rating to reflect the expected reduction in risk resulting in a single notch improvement but on negative watch. This assessment reflects the revised treatments of TNUoS risk and bad debt risk but does not yet reflect any future increase in cash volatility from any further developments with BSUoS charges. The rating is still contingent on parental support.

Working capital facility

The shorter-term working capital needs of the ESO are financed through the provision of a working capital facility (WCF). The additional funding of £1.9 million is described by Ofgem as including £0.6 million for the WCF. Based on the cost assumed by CEPA of 0.3 per cent this would equate to a facility of £200 million.

The ESO has a contractually committed WCF for 2021/22 of £550 million, entered into to reflect the potential cash requirements at the time. The Moody's credit rating for the ESO is underpinned both by the size of the WCF and by an expectation of parental support from National Grid plc. The WCF costs are not covered in full so the draft determinations do not currently finance the activities of the ESO. Further detail can be found in our response to ESOQ28.

Impact of financial package on business and investment decisions

The proposed financing arrangements do not adequately finance risk capital in the ESO. The equity proposition is insufficient. The ESO, Ofgem and stakeholders all appear to agree that the "ESO has a central role to play in our energy system"³⁹. Ofgem even states that "we need the ESO to be proactive, forward-looking and ambitious"⁴⁰. The financial package has a critical role to play in encouraging proactivity and ambition yet the current proposals fail to do this.

Our responses to ESOQ26 and ESOQ27 explain why we believe the returns on equity invested in the RAV and additional funding are not adequate. Ofgem acknowledges that a RAV x WACC model does not adequately remunerate equity for risks and services provided by the ESO that are not related to the RAV. The provision of additional funding within the framework creates an opportunity to address this and ensure that the ESO is encouraged to be proactive and ambitious and to take calculated risks for the benefit of energy consumers. The current proposals fail to take this opportunity.

A rational investor (and management team) will consider the investment case for any additional investment in developing new and innovative ideas, or additional services. The upside reward for such activity is that, if those new activities prove to be successful Ofgem might, if they choose to do so in an evaluative framework, offer some financial reward. However, the ESO cannot confidently predict whether there will be a positive incentive impact and so would have to discount such a potential reward heavily in any investment decision.

The costs and risks will also be considered. New and untested technologies may carry additional operational or reputational risks, particularly if they are unsuccessful. The ESO's role in the industry is such that a benefit for consumers may mean a loss of income or profit for some industry participants exposing the ESO to adverse feedback from impacted stakeholders and additional risks of legal challenge, reputational damage and incentive penalties. The pursuit of innovative solutions and technologies carries considerable risk. They may impact negatively on stakeholders, on current activities and operations, or simply be delivered later than hoped. Any perceived negative impact on stakeholders, value for money, plan delivery etc. can result in a poorer outcome under the evaluative incentive scheme. Furthermore, there is no clarity on how doing well on one at the expense of another will be considered, for example, will delaying delivery to add functionality that stakeholders want at further cost be deemed positively or negatively?

If the costs of new activities were not initially factored into the cost benchmark, which will almost certainly be the case for ideas developed after the RIIO-2 Business Plan was developed, then the additional cost incurred could impact negatively on the efficiency criterion of the evaluative incentive. While new costs that yield verifiable and observable benefits on a timely basis may not be held against the ESO in the incentive framework, those where the benefit is less visible or verified by the time of any assessment may result in a poorer incentive outcome. This risk will be factored into any rational decision-making process. More details are provided in the answers to ESOQ20 and ESOQ22.

Also, as covered in our response to ESOQ23, the ESO faces a greater risk of cost disallowance than the networks. On an expected value basis, a pass-through regime with a non-zero risk of cost disallowance results in a mean expected loss. As explained in ESOQ23, such a loss is both more likely and more material for the ESO increasing the likelihood that the ESO will fail to recover its cost of capital.

These risks are considerable and encourage risk-averse behaviours.

The ESO Licence Model published with the draft determinations shows the notional ESO earns an EBIT of £8.6 million and profit after tax of £4.8 million in 2021/22. This gives very little headroom to absorb a negative shock. Even a relatively small investment in a new service or team could easily reduce this profit materially if

³⁹ Ofgem, RIIO-2 draft determinations, ESO document, paragraph 1.3

⁴⁰ Ofgem, RIIO-2 draft determinations, ESO document, paragraph 1.5

Ofgem do not consider the costs efficient. A rational investor will therefore likely choose not to be innovative, not to proactively invest in additional opex, and not to be agile and respond quickly to the market. Rather than encouraging the ESO to be proactive, forward-looking and ambitious, the proposed package encourages reactivity, caution and risk aversion. It does not therefore finance the activities the ESO is intended to undertake.

Equity proposition

As explained in the KPMG report included as Annex 2 to this response, Ofgem and CEPA have focussed almost exclusively on debt-based metrics for their assessment of financeability with Ofgem dismissing a consideration of equity financeability. In so doing Ofgem fail to secure the financeability of the ESO and deliverability of the business plan.

As explained by KPMG, a consideration of equity is even more central to an assessment of the financeability of the ESO than it might be for asset heavy networks. Downside scenarios need to be funded by equity and, for an asset light business like the ESO, the potential need to raise equity is heightened. However, it is not just the potential for downside shocks that requires a consideration of equity financeability. The licence model published alongside draft determinations shows an expectation that additional equity of £58.6m will be injected into the ESO to fund a series of IT investments that cause an increase in the RAV. This represents an increase in equity investment of over 60 per cent. The financial package therefore needs to attract equity if those investments and the benefits within the ESO Business Plan are to be delivered. If it is not attractive to equity, the package will not finance the activities of the ESO.

In their report KPMG present a series of criteria that need to be met to secure financeability. These are:

1. The regulator has an established framework for remuneration that duly recognises and fairly prices all components of risk and layers of capital.
2. Investors should be able to reasonably expect to earn the remuneration requirement.
3. Regulatory provision is made for financial headroom to manage potential downside scenarios.

They also consider equity financeability metrics.

The three criteria are not met:

1. ESOQ26 and ESOQ27 demonstrate that the draft determinations do not yet recognise and fairly price all components of risk and layers of capital. The allowed equity funding of the RAV is understated and the additional funding fails to cover the non RAV related risks and contingent capital.
2. Our response to ESOQ23 explains why investors will expect not to earn the remuneration or return required due to the asymmetric risk of disallowance where the ESO faces a disproportionate risk in terms of materiality and a higher likelihood of the risk materialising than the networks. This risk is not offset by the incentive scheme for which the 'meets expectations' outcome will be zero reward.
3. Finally, the ESO has insufficient headroom to absorb downside scenarios. The notional profit after tax of the ESO can be considered to be the risk buffer available to absorb shocks. That risk buffer is lower than the potential incentive downside, and less than 20 per cent of the potential value of any disallowance for inefficient costs.

Ofgem has chosen not to place any weight on equity metrics. As explained by KPMG:

"Equity financeability metrics are, naturally, predominantly earnings related. Ofgem seems to have reached the view that it does not need to consider these metrics since it has considered the need for earnings on its own merits.

In taking this approach, Ofgem is forsaking the reassurance for itself that its proposed package is well calibrated. It would also be denying the reassurance for potential providers of new finance to the ESO were it a standalone company. Such providers of new finance would likely not limit their consideration to the regulator's technocratic process used to determine the earnings requirement from the bottom-up. They would stand back and consider the prospective earnings levels with those in companies with similar financial and business characteristics.

Ofgem's failure to do so is a flaw in its proposals."⁴¹

⁴¹ KPMG: Review of NG ESO risk and remuneration under Ofgem's RIIO2 draft determination (p35)

The ESO presented EBIT margin evidence in our Business Plan to demonstrate the level of profits that other comparable businesses may expect to receive. The advantage of this analysis is that it uses competitive benchmarks where competition is generally expected to reduce margins to the efficient level. The consultant report provided by Oxera⁴² explained in detail how it chose the comparators, including how they filtered the comparators used to best reflect the asset-intensity and risk characteristics of the ESO.

On the face of it, Ofgem has chosen not to engage with this substantial body of evidence because it is “not persuaded”, partly because it is difficult, despite the fact that the analysis offers additional relevant data points that should be considered when setting a price control for the first time.

The relevance of margins was confirmed by the CMA in the SONI appeal. “An important part of SONI’s case is its submission that a review of the profit allowance which would result from the use of alternative approaches demonstrates that it would be materially higher than under the UR’s approach. **We agree that this is relevant to whether the UR’s allowed return was too low under the approach adopted by the UR,** in addition to whether to the UR was wrong to use its RAB/WACC approach rather than such an alternative approach.”⁴³ (Emphasis added).

Ofgem did seek to explain that if a series of adjustments are made to the EBIT margins presented by the ESO a threshold margin of 10 per cent can be obtained. We agree that a 10 per cent margin should be attained but find Ofgem’s adjustments to be flawed as follows:

- EBIT is a measure of profit after deducting depreciation so it is not appropriate to add depreciation back. An EBITDA margin would add back depreciation but the thresholds would then be higher than 10 per cent. It is true that the regulatory depreciation impact on regulated revenues is included in the denominator and so it should be as competitive businesses set prices to recover their costs, including the depreciation of capital assets. The only difference is that the depreciation impact for the ESO is a more visible and identifiable component of revenue than it is for the comparators. KPMG comments that Ofgem’s premise “reveals a lack of understanding around the relevance of profitability metrics in an equity-weighted financeability assessment”⁴⁴
- Under Ofgem’s proposed new arrangements we do not believe that time value of money will make a significant net contribution to the EBIT of the notional ESO business.
- Incentive revenue cannot be included for the notional company as there is no mean expectation of incentive gain. The incentive upside potential may exceed the downside potential but we understand from Ofgem that the default incentive outcome for meeting expectations will be £0, i.e. neither a penalty nor a reward. Incentive outcomes are relevant to RORE analysis but not an assessment of baseline financeability.

We agree that additional funding should be included in the EBIT calculation. Additional funding was used as part of the ESO Business Plan to achieve the required margin.

Using the calculations within the Ofgem licence model, the draft determinations provide for an average baseline EBIT margin of 4.5 per cent and only 3.8 per cent in 2021/22, well below the 10 per cent indicated by relevant benchmarks. EBIT margins are a relevant cross check of the financial package. Ofgem may not be persuaded to use EBIT margins, but rational decision-makers will not be persuaded to be innovative, proactive and agile with the limited headroom in the currently proposed package. Based on the published licence model, additional funding of £15 million per annum, plus working capital facility costs, is required to achieve a 10 per cent margin.

Returns to capital and Return on Regulatory Equity (RORE)

Section 4.4 of the KPMG report takes their view of the adjustments required to the allowed equity return and additional funding and calculates the implied return after considering the various layers of capital discussed in their report.

Ofgem’s draft determinations provide for a base return on the RAV of 4.4 per cent (nominal, including the CPI uplift). KPMG then adjust the asset beta and additional funding. While these adjustments add over £20

⁴² Oxera Report: <https://www.nationalgrideso.com/document/153396/download>

⁴³ CMA - SONI Limited v Northern Ireland Authority for Utility Regulation, Final determination, para 7.175

⁴⁴ KPMG: Review of NG ESO risk and remuneration under Ofgem’s RII02 draft determination (p35)

million to revenues the revised return falls to 4.0 per cent once the additional capital layers of the required working capital facility and contingent equity are included.

Comparable analysis is presented for RORE. Ofgem’s proposed return of 5.28 per cent is equivalent to a nominal return of 7.4 per cent. After updating the required revenues and capital layers, the return rises to 8.7 per cent. This is equivalent to a CPIH stripped real return of 6.6 per cent. This is higher than Ofgem’s proposed return because of the increase in the asset beta explained in response to ESOQ26. The result is below Ofgem’s initial working assumption of a 7.8 per cent return on the RAV.

Within this analysis it is worth noting the following:

- The additional capital layers are the anticipated working capital facility, with supporting contingent equity, plus a further £75 million of contingent equity for downside shocks.
- The provision of £6.9 million for asymmetric risk offsets an expected loss of comparable value and as such does not increase the required return.

Within our responses to ESOQ26 and ESOQ27 we have suggested a corrected range for the asset beta of 0.59 to 0.74 and additional funding of £12.2 million to £16.8 million. While we do not necessarily advocate combining both low points or both high points of each range the results would be as follows:

Nominal returns	Capital return	RORE
KPMG	4.0%	8.7%
Low end of ESO proposed ranges	3.3%	9.2%
High end of ESO proposed ranges	4.2%	10.8%

Figure 11: Results of combining both low and high points in the range

The numbers above are presented on a nominal basis and need to be adjusted for any comparison to the networks to remove the impact of CPI.

The relative positioning of the KPMG results compared to the range indicated by the ESO results is due to a difference in the methodology adopted. KPMG’s approach is described in their report. As explained further in ESOQ27 above, the ESO has adopted and applied the framework outlined in CEPA’s report. The only significant addition to that approach is to include the allowance for asymmetric cost disallowance.

Summary

As explained in this response, the draft determinations do not currently finance the proposed activities of the ESO. We find that the proposals should allow for the debt financing of the RAV but a minor adjustment is required for the anticipated costs associated with the working capital facility.

More significantly the financial package fails to adequately finance risk capital and is likely to create an environment in which investment decisions are not taken due to concerns over cost recovery, uncertainty over incentive outcome, and a lack of financial headroom to be able to invest in innovative solutions and services where risk may be higher.

Ofgem’s proposals offer insufficient reward to the equity financing of the RAV, fail to recognise and remunerate the asymmetric disallowance risk, and understate the additional capital layers required to finance the business and so fail to adequately remunerate them.

Innovation

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

We do not agree with Ofgem’s proposal for a two-year funding period for the ESO’s network innovation allowance (NIA). Our proposals for the funding required in the first two years of RIIO-2 were part of a longer-term project portfolio spanning five years, with the funding requirement increasing year-on-year. We strongly believe that a five-year arrangement, as is proposed for networks, will better allow the ESO to deliver the kind

of long-term, collaborative and whole system innovation, that is needed to drive the transition to net zero. In contrast, a two-year period would stifle this effective innovation by limiting collaboration with other networks, restricting projects to low-risk and short-term quick wins, and risking confusion and frustration among our partner innovators.

Innovation projects, by their very nature, are rife with uncertainty and risk. Projections of project durations, and even start dates, are regularly inaccurate by many months, as it is in the innovation space that we attempt to discover all possible issues with a solution in for example: technical, legal, regulatory and procedural aspects. As such, we believe it is not appropriate to compare innovation project planning to that of business as usual (BAU), including the more ambitious IT and operational projects.

We have taken the opportunity to engage our industry stakeholders to establish their views on this, and will share this feedback directly with Ofgem. Our stakeholders and innovation partners overwhelmingly support the ESO having a five-year NIA period.

A two-year period does not align with project development timeframes

Setting up projects correctly from the start is key to their efficient delivery. In our experience, the project development process can take between three and twelve months, including building the business case and project plan, negotiating contracts, plus setting up and registering a project. The more complex the project involving larger number of partners, sensitivities around Intellectual Property Rights (IPR), number of interested and impacted stakeholders, the longer this initiation period takes. Whole system projects are particularly time intensive. For example, Recorder⁴⁵ is a 16-month project that took over a year to agree between the ESO, Electron, UK Power Networks (UKPN) and SP Energy Networks (SPEN) due to negotiations on the project scope and terms of the multi-party contract.

Using the available data on projects, with a start and end date in the Smarter Networks Portal,⁴⁶ most projects registered take more than 12 months to complete. Even for a 12-month project, combined with the time to develop and initiate it, we would need 15 to 24 months from idea to project completion, assuming no delays in project delivery (which there frequently are). A two-year funding cycle would all but rule out projects of 12 months or more, restricting the ESO to short-term projects, which usually result in smaller, less impactful benefits being delivered, or in latter higher Technology Readiness Level (TRL) levels stages of the initiatives being blocked.

The original proposal for £50 million of NIA, accessible over the full five-year period, was intended to allow the ESO to build a significant pipeline of innovation projects. The first two years would be mostly spent developing larger projects, and the bulk of spending would be in the last three years of RIIO-2. Without certainty of how much NIA the ESO would have after two years, new innovation activity would quickly hit a cliff edge until funding for the next period is agreed, and the £50m project portfolio ambition would instead have to be replaced with an £8 million two-year plan. The result would be a two-year cycle of peaks and troughs in activity, as activity stops and then takes time to start-up again at the beginning of the next period. This contradicts with what Ofgem has sought to solve from a five-year NIA allowance for networks “We expect that such an arrangement would avoid the peaks and troughs of innovation activity seen at the start and end of each regulatory year during the price control. The allowance would cover five years for TOs and GDNs, and two years for the ESO.”⁴⁷

Evidence from stakeholders, which we have shared with Ofgem, has highlighted the issues that a two-year funding period would create for current innovation projects such as energy forecasting, photovoltaic monitoring services, probabilistic stability, and residential response.

A two-year period will impede effective collaboration

Collaboration is key to harnessing the knowledge and experience of a wide range of industry partners to help identify solutions and innovate more effectively. Indeed one of the purposes of the NIA according to Ofgem is “to enable companies to work together and consider the challenges that the industry as a whole is facing”⁴⁸. We believe that a two-year deal for the ESO will severely restrict collaboration.

⁴⁵ <https://www.electron.org.uk/press-releases/recorder-announcement>

⁴⁶ <https://www.smarternetworks.org/>

⁴⁷ Ofgem RIIO-2 draft determinations, Core Document, Section 8.81

⁴⁸ Ofgem RIIO-2 draft determinations, Core Document, Section 8.78

Without guaranteed funding beyond two years, contracts would require a termination clause at the end of the two-year period, which would understandably be difficult for suppliers and project partners to agree to especially smaller suppliers and start-ups, who rely on funding and could not accept this level of uncertainty. All parties on a collaborative project with the ESO would be forced to accept the ESO's conditions around their two-year funding period, which would only increase delays in contract negotiation.

As the other network companies have been granted a five-year period for NIA funding, many of their innovation portfolios will likely be based on this timespan. The ESO wouldn't be able to participate effectively in collaborative network projects which cross the end of the ESO's two-year NIA period. The ESO would only be able to approve, contract and participate in activities up to the end of the two-year funding period unless further funding is guaranteed before a project is approved. As the ESO's involvement is required on whole system projects, this would stifle any longer-term, collaborative innovation to address this issue restricting whole system projects to a two-year window, including proposal development and contract negotiation. This conflicts with Ofgem's desire for networks to "demonstrate stronger partnership with academics and wider industry" and to "improve transparency and simplify the process for third parties that wish to engage with innovation projects".

The difference in funding arrangements between the ESO and other networks could create confusion amongst third parties wishing to collaborate on innovation projects. This contradicts Ofgem's aim to simplify the funding and make it easier for third parties to approach networks at any time with their ideas: "We propose to give companies a single allowance for the length of the relevant price control. We consider that providing allowances in a consistent way will improve transparency and simplify the process for third parties that wish to engage with innovation projects. This would provide clarity around when innovation funding would be available, enabling third parties to approach network companies at a time of their choosing."⁴⁹

During RIIO-1 the NIA has been well suited to funding lower TRL research activities, many of these are university PhD projects. These research projects will become even more important with the new conditions around NIA funding (higher-risk, lower TRL projects). As a full-time PhD project takes between three and four years to complete, the ESO would no longer be able to fund these effectively, without any guarantees on the future level of NIA funding available (beyond the two-year period). According to Paul Jarman, Professor at the University of Manchester⁵⁰, there is a risk that these "short term contracts lead to poorer recruitment and retention of good researchers in universities".

Future funding should not be tied to a two-year planning cycle

We disagree with Ofgem's proposal to have NIA funding tied to the ESO's two-year business planning cycle⁵¹, as the type of innovation which NIA supports doesn't align at all with this process. One of the rationales for NIA funding was to allow networks to undertake higher-risk innovation, outside the usual business risk profile, approval criteria and planning cycle. NIA allows for innovation projects to be started at any time during the price control, particularly in response to new issues becoming apparent, potential new high-risk solutions being identified, and new opportunities for collaboration becoming available.

If the ESO is required to provide detailed forecasts of innovation activity for the price control period, then this provides less opportunities to truly innovate. Innovation activities which can be included in a business plan will be lower risk, where solutions have been identified and need to be developed or demonstrated further, to allow for implementation and for benefits to be delivered during the price control period. Innovation activities in our Business Plan would be locked in at the start of the price control, with little ability to adapt projects to the quickly shifting energy landscape.

Due to the timescales needed to build a portfolio of innovation projects, deliver these successfully, then realise any benefits beyond the price control period, it would be very difficult to provide any further justification in the Business Plan beyond what has already been provided in the ESO's proposal. Nothing within the first two years of the ESO's price control would improve how well the ESO could forecast the higher-risk innovation which NIA is designed to support, this type of innovation is inherently uncertain in nature, which is one reason that NIA is provided to networks so that funding can be used flexibly across the price control period.

⁴⁹ Ofgem RIIO-2 draft determinations, Core Document, Section 8.80

⁵⁰ Presentation to Ofgem and ENA innovation group, August 2020

⁵¹ Ofgem RIIO-2 draft determinations, ESO document, Section 6.9

Quality Assurance processes are robust for a five-year period

The proposed changes to NIA in RIIO-2 include robust conditions⁵² for what activities can now be funded using the NIA, as well as new quality assurance measures⁵³. These measures include peer review, an improved reporting framework and third party audits, with the penalty of disallowance if projects are deemed wasteful, or not complying with conditions of the NIA. The ESO believes that these measures are sufficiently robust and will mitigate the risk of wasteful NIA usage and the need for NIA to be considered alongside the two-year business planning process. Although the ESO has requested a significant increase in NIA funding for RIIO-2, we believe this is justified by the similarly large benefits ESO innovation can deliver for consumers and the energy transition, and through the quality assurance measures the risk of disallowance is too high for the ESO to be careless with this funding.

BAU funding should not be a backup for NIA

The ESO supports Ofgem's view that "wider proposals for the ESO price control, such as the cost pass through approach, provides greater flexibility for innovation to be taken forward. However, the ESO's NIA proposals focus on initiatives that appear either high risk or would not deliver benefits during the price control period."⁵⁴ The cost pass through mechanism is a useful way to fund lower-risk innovation, however this should not be treated as a backup for any lack of NIA funding or where there is no certainty of NIA funding for projects beyond the first two years.

There are different conditions for NIA funding compared with the cost pass through mechanism which follows the two-year business planning cycle, different approval processes, contracts, reporting and dissemination requirements. BAU innovation via cost pass through would not include the higher-risk activities funded through NIA, due to the risk of cost disallowance especially in the instance of a project failure. BAU-funded innovation would need to go through higher approval channels within the ESO, this would be subject to more rigid, lower-risk approval criteria and follow a different planning cycle. BAU funding would also extend the period needed for approval and delay time-critical innovation activities even further, if they even pass BAU approval.

Higher risk NIA projects that require funding beyond the first two years of RIIO-2 could not continue being funded under the cost pass through mechanism, which is suited to lower risk, BAU innovation activities. Certainty of NIA funding for the full five years is necessary for the ESO to plan and budget a pipeline of NIA projects effectively, across the full RIIO-2 period.

The NIA encourages higher-risk network innovation, beyond what could be done with the cost pass through mechanism. Having a guaranteed amount of NIA funding also indicates the expected level of innovation that Ofgem expects networks to undertake over the RIIO-2 period. A separate NIA funding frees innovators from competing with BAU activities for resources and from the administrative burden of following business planning cycles. As Ofgem has stated "The NIA will enable companies to take forward innovation projects with longer-term financial and environmental benefits for consumers, which they would not otherwise undertake within the price control."⁵⁵ The cost pass through mechanism cannot be treated as an interchangeable source of funding for innovation projects if a future level of NIA for the ESO, beyond the first two years, has yet to be guaranteed.

Funding should be flexible across the five years of RIIO-2

We think the ESO would be in a much better position to drive the energy transition with access to £50 million over the five-year price control period. We understand Ofgem's desire for networks to justify the case for an increase in NIA spend, however there is great difficulty in detailing what higher-risk innovation activities will take place over the price control period (which is why NIA funding is fundamentally necessary, to allow flexibility to innovate in an agile manner).

As set out in our Business Plan, £50 million over five years reflects the significant, positive impacts which a large portfolio of ESO innovation projects could have on whole system issues, such as decarbonisation and delivering consumer benefits through reductions in future balancing costs. This level of NIA is proportionate with innovation spending in similar organisations, when benchmarked against the size of future BSUoS

⁵² Ofgem RIIO-2 draft determinations, core document, Sections 8.82 to 8.85

⁵³ Ofgem RIIO-2 draft determinations, core document, Sections 8.91 & 8.92

⁵⁴ Ofgem RIIO-2 draft determinations, ESO document, Section 6.5

⁵⁵ Ofgem RIIO-2 draft determinations, core document, Section 8.68

charges. We believe that setting clear criteria for NIA projects, and implementing the proposed quality assurance measures which Ofgem have set forth, ensures that NIA will only be used in the most effective, efficient way, and reduces the need to provide additional assurances (e.g. spending forecasts) ahead of time.

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?

Yes, we believe collaboration is a crucial ingredient to successful innovation. In our Business Plan we set out our ambition to drive our "collaborative Open Innovation approach" even further in RIIO-2. We aim to use more innovation events and open calls for ideas to work better with network partners and collaborate with third parties and academics on developing new projects. This closer collaboration will help increase our stakeholder engagement, refine the ESO's Innovation Strategy and share outcomes from our projects even more widely.

Uncertainty

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?

We do not agree that the price control design is sufficiently flexible.

We agree with Ofgem that when we take on additional roles like early competition we should update the cost benchmark, delivery schedule and performance measures. The early competition role is a good example of a role that has the potential to deliver significant benefits to the consumer but where there is unlikely to be a significant addition to the RAV. This highlights a significant uncertainty whereby the ESO would at best recover its costs, but could not be confident of being rewarded for the additional risks of taking on such a role. We agree with Ofgem's proposal to adjust the additional funding parameter to reflect the expansion of ESO's role in areas such as early competition. However, we are concerned that the current judgemental approach to setting additional funding does not provide clarity as to how the ESO might be remunerated for taking on additional risks and roles. Further information is in our answer to ESOQ22.

We consider that the direct costs of the working capital facility should be covered by an uncertainty mechanism for the reasons discussed in our response to ESOQ28.

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?

The outcome of the BSUoS charging taskforce could have a material impact on revenue collection risk for the ESO. There is a strong desire across the industry to provide more certainty of charges which has been confirmed by the recent code modifications under CMP345 and CMP350 which cap BSUoS charges over a period of high and unpredictable balancing costs. Any future policy changes which fix or cap tariffs within the charging year would materially add to the ESO's cash flow risk. The level of risk could be much higher than the risks we manage under our TNUoS revenue role, since the charges are much more volatile and demand patterns much harder to forecast.

In the case of any BSUoS charge fixing, in addition to managing the liquidity risk, the ESO would require an uplift to additional funding for the material change to its risk profile. Ofgem's proposed mechanism for the provision of additional funding does not provide clarity on how any additional risk would be remunerated. We do not consider that the current proposed remuneration of the equity underpinning the WCF would be an adequate mechanism for such a fundamental change in risk profile. We believe that an allowed margin on revenue, similar to that the CMA determined to be appropriate for SONI, would provide a fair and transparent return for additional revenue risk. Using a margin of 0.5 per cent on revenues was determined by the CMA to be fair in the 2017 SONI appeal and we propose that this same margin would be right for the ESO given the volatile and unpredictable nature of BSUoS costs.

As discussed in ESOQ28, we consider that it would be appropriate to review the allowance for WCF fees at the end of the first two years of the RIIO2 price control. This would allow for the impact on WCF fees because of any changes to ESO's revenue collection role, to be adequately funded.

Other cross-cutting issues

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?

In our RIIO-2 Business Plan we set out an ambitious plan for IT transformation, which we articulated would be achieved based on the current IT shared services model. We recognise the concerns raised in relation to the current IT delivery model through working closely with Ofgem and industry stakeholders since the submission of our RIIO-2 Business Plan.

We welcome the opportunity set out by Ofgem in the draft determinations to respond, in a separate submission, to the concerns raised. We have worked closely with Ofgem since we submitted our Business Plan to understand the concerns raised further and build a clear view of the problem statement.

In response to the position Ofgem has articulated we have taken the opportunity to work on an independent and robust assessment of the alternatives to the current IT delivery model for ESO, with a view to putting forward a preferred model to Ofgem. We are embracing this piece of work as an opportunity to take an independent view of what the most effective ESO IT delivery model for RIIO-2 would be.

Alongside this consultation response, we are submitting our findings to Ofgem in draft form. We will work iteratively with Ofgem on the feedback to this version and will submit a final report on ESO IT Delivery Model for 9 October.

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

The consultation position that ESO requires full autonomy of IT provision in order to address concerns raised is one which would incur significant cost to consumers and disruption to delivery of the RIIO-2 Business Plan.

We do believe that there is an alternative option for ESO IT delivery which is preferable to the position set out. This model addresses the key concerns raised by Ofgem of ESO accountability, independence, control, capability whilst minimising the incremental cost to consumers and any impact on ESO's RIIO-2 transformation.

This model option has been developed through our work to look at alternatives and we have articulated this in draft form with Ofgem alongside this consultation response. We welcome the opportunity to engage further with Ofgem directly on this, working through feedback on our submission to prepare the final version for 9 October.

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

We believe that the proposed timing of implementing IT autonomy by 1 April 2023 would present an unacceptable level of risk and cost to consumers. There are alternative pragmatic timescales that would address the concerns Ofgem have raised whilst also reducing the level of risk to an acceptable level and reducing cost to consumers.

We have set this out in draft form, alongside our preferred alternative model, in the submission to Ofgem and will continue to work with them directly based on feedback through to the Final Report submission.

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?

We support the principle that the ESO should recover its anticipated internal expenditure in the year as opposed to a value fixed at final determinations. We understand this to mean recovering revenues based on internal cost forecasts as submitted in the regulatory reporting pack (RRP). This will reduce year-on-year volatility of internal revenues, reduce the magnitude of true-ups, increase the cost reflectivity of charges and reduce the ESO's cash flow volatility.

We would appreciate further clarity from Ofgem as to how any forecasts for the purposes of revenue setting would need to be prepared. Our RRP forecast would normally be our best view of costs the ESO would incur to satisfy its deliverables under the RIIO-2 framework but would likely include forecasts for investments that Ofgem has not included in its cost benchmark until further evidence could be provided to ensure the investment represents a good outcome for the consumer. In fact, nearly all our proposed investments in RIIO-2 have some element of cost that is subject to further agreement with Ofgem, and so could suggest that our forecasts to be used for the purposes of dynamic revenue recovery would only ever cover the level of investment that Ofgem deem to be agreed as within an efficient cost benchmark. This is not only contrary to the principle of the ESO being able to recover its costs without undue delay, but also raises the question of whether the ESO would commit to invest in innovative projects if it had to fund the project in the short term with no guarantee that Ofgem, with hindsight, would deem the project to be efficient and in the best interests for consumers. We expect that ESO revenues would be set based on our complete cost forecast, rather than to limit recovery to costs that Ofgem have pre-assessed as efficient.

ESO's forecast view of internal expenditure will be amended over the course of the year due to either variations in cost forecasts or additional requirements being agreed with Ofgem. To enable the ESO to recover its anticipated expenditure on a timely basis may require more than one annual iteration process (AIP) cycle during the charging year. As we are keen to streamline the process and ensure that the administrative burden is proportionate, we propose to adjust the allowed revenue for material changes only. The revised annual revenue could be published by Ofgem following an additional iteration process and we would reflect the revised revenue in the BSUoS forecasts.

The design of Ofgem's AIP for RIIO-2 therefore needs to accommodate this requirement to ensure allowed revenues can reflect updated forecasts.

Material updates to the internal revenue forecast of even £10 million represent less than one per cent of annual balancing costs. Therefore, we do not envisage that this change would create any new information requirements for the industry to manage it.

If revenues are to be based on forecast totex levels as planned, further clarity is required on the purpose of submitting business plans to Ofgem. If allowed revenues are based on the totex included in the RRP or updated forecasts, there appears to be no role for the formal 2023-25 business plan in the setting of allowed revenues.

We agree with the proposal to amend the recovery of SO-TO costs based on actual costs to be consistent with the actual cost recovery principle.

As Ofgem mentions in its draft determinations, the BSUoS task force is due to publish its final report by the end of September 2020. If a decision is taken to fix BSUoS charges the ability for the ESO to recover its internal revenue dynamically will be curtailed.

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

We agree with Ofgem's proposal that ESO's NIA and business rates are recovered via Balancing Services Use of Systems charges (BSUoS). The ESO's NIA innovation projects will deliver benefits for consumers primarily through a reduction in BSUoS charges with potential benefits for reductions in network expenditure over the long term.

Therefore, it is appropriate that NIA funding for the ESO be recovered from the BSUoS charges. Where ESO innovation activity does involve working with other networks on projects which directly affect transmission system assets, those activities would be funded through Transmission Use of System charges (TNUoS) under the other network's proportion of NIA.

Our view is that other pass-through costs such as licence fees and ITC should continue to be recovered via TNUoS. As per Ofgem's Licence Fee Cost Allocation principles document from November 2016, the ESO recovers the total portion of the electricity transmission element of the licence fee. The charges, although paid for by the ESO, are for costs incurred on behalf of the Transmission Owners and therefore should be classified as transmission costs and recovered via TNUoS.

ESQ39. Where or how can the ESO's existing reporting requirements be streamlined?

We support the principle of reducing the regulatory reporting burden and streamlining the existing requirements. The table below shows our understanding of Ofgem's current proposals for reporting.

For incentives reporting, the ESO's reporting requirements should be proportionate to the frequency of meaningful feedback, scoring and financial outcome information that is provided by Ofgem and the Performance Panel. The proposed frequency of feedback is not sufficient to merit the frequency and extent of reporting: we propose that either more frequent feedback, scores and financial outcome decisions are provided, or the reporting burden is reduced.

If more frequent feedback will not be provided, opportunities for streamlining reporting are as follows:

- Plan delivery tables (which also include zero carbon operability as discussed below) could be updated every six months rather than every quarter
- Consumer benefit information could be updated annually rather than every six months
- Stakeholder evidence could be provided annually rather than every six months
- Historic cost information should be at a high level only to avoid duplication with Regulatory Reporting Pack
- The process to assess IT investment for efficiency is not clear. At worst, projects would submit updates to cost and scope at each stage gate. This would create a significant reporting burden for ESO and Ofgem. We propose that the process and reporting is elevated to a programme or portfolio level and managed by exception based on risk, value, or consumer priority..

As outlined in our response to Q6 of the Core Document on digitalisation reporting, we agree that the digitalisation strategy should be refreshed at least every two years. However, we propose that the action plan is updated annually, rather than every six months. We believe this frequency would more appropriately reflect the degree of change we would expect to our action plan year-on-year, and the expected scope, covering our transformational digitalisation activities and those we are co-ordinating and collaborating on with other energy system partners.

Additional reporting requirements proposed for the NIA innovation funding should not add undue burden on innovation teams, which may detract from our innovators and our external partner's ability to fully resource and run high-risk innovation projects efficiently and effectively. Where possible, new reporting and review requirements should replace current inefficient practices, rather than be an additional requirement.

RIIO-2 reporting requirements: Ofgem’s proposal

	Monthly	Quarterly	Mid year	Annual	Every 2 years
ESO outputs	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 11 Ongoing: cost information for IT projects when change to investment stage or expected costs 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 13 Plan delivery tables Zero carbon operability Ongoing: cost information for IT projects when change to investment stage or expected costs 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 13 Plan delivery tables Zero carbon operability Stakeholder evidence Consumer benefit (against CBA report) Historic costs Ongoing: cost information for IT projects when change to investment stage or expected costs Digitalisation action plan update 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 16 Plan delivery tables Zero carbon operability Stakeholder evidence Consumer benefit (against CBA report) Historic costs Ongoing: cost information for IT projects when change to investment stage or expected costs Digitalisation action plan update RRP NIA RRP NIA Annual Summary NIA project reports (plus any new reporting requirements for SIF) Innovation strategy 	<ul style="list-style-type: none"> Metrics/ regularly reported evidence x 16 Plan delivery tables Zero carbon operability Stakeholder evidence Consumer benefit (against CBA report) Historic costs Ongoing: cost information for IT projects when change to investment stage or expected costs Digitalisation action plan update Digitalisation strategy update RRP NIA RRP NIA Annual Summary NIA project reports (plus any new reporting requirements for SIF) Innovation strategy
Ofgem outputs			<ul style="list-style-type: none"> Targeted feedback from performance panel Update to cost benchmark for projects not originally included 	<ul style="list-style-type: none"> Ofgem call for evidence Ofgem stakeholder survey Mid-period evaluation report and scoring Stakeholder event Update to cost benchmark for projects not originally included 	<ul style="list-style-type: none"> Ofgem call for evidence Ofgem stakeholder survey Stakeholder event End of period evaluation report, scoring and final incentive decision Update to cost benchmark for projects not originally included

Figure 12: RIIO-2 reporting requirements and Ofgem’s proposals

Value for money

The introduction of the Value for money criterion of the incentive scheme will introduce an additional reporting burden, and therefore we hope that the amount of information required to justify that our activities are efficient will not be extensive.

In ESOQ21 we explain the challenges of reporting value for money at Role level. We understand from Ofgem that detailed explanations will only be needed for deviations at the total Role level, though major changes to project costs within the total (even if overall Role cost is equal to benchmark) should be explained. As set out in our answer to ESOQ7, we think that a 10 per cent materiality threshold should apply before deviations from Ofgem’s ex ante view of efficient costs should be explained. This would allow discussions to focus on major and IT opex investment where the majority of consumer value is held.

We would be happy to work with Ofgem to develop a suitable level of aggregation for reporting on value for money, along with an appropriate approach for including this in the incentive scheme assessment. If significant detail on costs must be provided as part of incentive reporting, then this risks creating duplication with the existing Regulatory Reporting Pack (RRP).

Timings of incentive reporting

It is also important to consider the timings of incentive reporting. At present, a report is published on the 15th working day of each month. This does not give a large amount of time for us to extract balancing costs information from our settlement systems, process this data, and provide a detailed narrative describing the drivers of these balancing costs. It would be preferable to publish these reports a few days later, for example on the 17th working day of the month, to allow for more analysis of this data to be done.

At the end of each financial year, the existing report deadline in early May for the end of year incentives report is logical, as this allows sufficient time for us to process data and information relating to our activities during the previous year, and provide narrative associated with this data. It should be noted however, that the financial information provided to assess cost efficiency would not have been fully audited or have been subject to the same level of internal review as the data, which is proved for the RRP, which is submitted in July. This is due to the statutory financial close processes which take place in April.

As some of the proposed metrics and regularly reported evidence will be required at a monthly frequency, we understand that a monthly report will be required. This gives the opportunity for stakeholders, Ofgem and the Performance Panel to regularly monitor our performance, and provide us feedback on a regular basis. We would find it helpful to receive meaningful feedback on our performance each time a report is published.

Ofgem's proposals suggest that plan delivery should be reported on a quarterly basis. This is the same frequency as today, and would ensure that Ofgem and the Performance Panel have the information they require to give clear feedback and scoring on a six-monthly basis on the ESO's performance. Ofgem also refers to a dashboard report on the delivery of our zero carbon operability ambition: however we would expect this information to already be included in our plan delivery tables, with the executive summary of our more significant reports stating how we are progressing towards each of our ambitions.

We would find it helpful to receive a score from the Performance Panel on a six-monthly basis. In order for this to be possible, we would need to report on each of the evaluation criteria on a six-monthly basis. Although this may require some additional reporting (e.g. for stakeholder satisfaction), we would be happy to provide this information if it made it possible for the Performance Panel to give scores and meaningful feedback on a six-monthly basis, giving us the opportunity to course-correct during the first year of the scheme. However, if detailed feedback and scores would not be given on a six-monthly basis, then it would be logical for each of the categories of reporting to be required on a less frequent basis than currently is the case.

Governance

It is important to recognise that all information which is formally reported to the Regulator by the ESO goes through some form of internal governance prior to submission. At present RRP is assured through licence requirements and it is vital that all reporting requirements are considered against an appropriate level of governance (which may or may not be required to be evidenced to Ofgem) and a reasonable level of resourcing needs and timescales.

ESQ40. 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?

No. Generally we agree with a shorter timeframe given the 2023/25 business plan will consist of updated costs and outputs, however we feel that the first draft and final submission of our Business Plan could be pushed back as there is a longer period than necessary between our final submission and draft determinations. This is a first-of-a-kind regulatory package and there is likely to be a number of learnings for BP2. We disagree the current timeline provides sufficient time to learn lessons of the first year of a new scheme, particularly as Ofgem proposes that the incentive decision will not be made until after the first two-year cycle has ended. We would also like to understand the level of detail that will be required in BP2, for example will a full set of data tables be submitted?

We suggest our first draft plan should be published towards the end of May to allow us to complete a full first year of RIIO-2 and the final submission to be the end of September to allow sufficient time to engage with stakeholders and seek their feedback.

Finally, we need to understand how the costs reported in the 2023 Business Plan will be used. It appears that the costs may only be of relevance to the incentive scheme and ex ante view of efficient costs since, as noted in ESQ37, revenues are expected to be based on a more up-to-date forecast of totex than the submitted Business Plan.

RIIO-2 draft determinations: core document

Embedding the consumer voice in RIIO-2

Q1. What role should Groups play during the price control period and what type of output should Groups be asked to deliver? Who should be the recipients of these outputs (companies, Ofgem and/or stakeholders)?

The user groups ensure that stakeholders have a strong and credible voice in the development of the RIIO-2 business plans. For the ESO, we feel that the ESO RIIO-2 Stakeholder Group (ERSG) could continue to add value in two key areas:

- Providing stakeholder challenge on the development of our 2023-2025 and future business plans
- Providing scrutiny of the delivery of our business plan and how we are working with, and impacting on, customers, stakeholders and consumers as we do that.

User groups should continue to review and challenge the ambition and credibility of the plans. In terms of outputs, the groups should continue to act in an advisory capacity, sharing experience and expertise with the companies. Stakeholders and companies should be the main beneficiaries of the outputs, with the groups championing and reflecting stakeholder views and the companies adjusting their proposals and priorities accordingly.

If the ESO group were to take on a role delivering outputs to Ofgem, there is a risk of overlap with the ESO incentive scheme Performance Panel, although we can see merit in a periodic report being provided to Ofgem to reflect the ERSG's view of the engagement and work the company has done. This report should be annual and could help to support the incentives framework.

Q2. What role should Groups take with respect to scrutinising new investment proposals which are developed through the uncertainty mechanisms?

The group will have a role in challenging the next business plan, as it had in 2018/19 during the development of the first RIIO-2 Business Plan.

Q3. What value would there be in asking Groups to publish a customer-centric annual report, reviewing the performance of the company on their business plan commitments?

We see potential value in this, providing there is no duplication of work by other groups. It would also be helpful to have clarity on what is meant by customer-centric. The user groups represent wider stakeholder views, not just customers who pay the ESO for services. It is also important to be explicit on the purpose of the report. If it is factored into the incentives framework then it must be clear what purpose and weighting it holds.

Q4. What value would there be in providing for continuity of Groups (albeit with refresh to membership as necessary) in light of Ofgem commencing preparations for RIIO-3 by 2023?

We see value in some level of continuity, particularly as we embed the new regulatory framework into the ESO and develop the second business plan in this period. This must be balanced with the risk of groups becoming too familiar with the business (this is applicable to any company). It is also important to make sure the correct group has the necessary expertise and representation to carry out any change in role. As preparations for RIIO-3 commence, we can see value in retaining some of the members from RIIO-2 who can draw on experience and are aware of the successes and drawbacks of the RIIO-2 framework.

Quality of service - setting outputs for RIIO-2

Q5. Will the combination of the two proposed Licence Obligations support the delivery of a digitalised energy system and maximise the value of data to consumers?

Yes, the combination of the two proposed Licence Obligations will enable us, and other network companies, to be held accountable and take responsibility for what we and they have committed to deliver; supporting the energy system to be digitalised and the value of data to be maximised for consumers, including through the wider use of digital technologies, establishing new ways of working and adopting the principle of presumed open data; encouraging innovation and not penalising the taking of measured risks.

Q6. Do you agree with our proposed frequency for publication of updates to the digitalisation strategy and the digitalisation action plan, respectively?

We agree that the digitalisation strategy should be refreshed at least every two years. We would propose that the action plan is updated annually, rather than every six months. We believe this frequency would more appropriately reflect the degree of change we would expect to our action plan year-on-year, and the expected scope, covering our transformational digitalisation activities and those we are co-ordinating and collaborating on with other energy system partners.

Q7. What kinds of data do you think should comply with the data best practice guidance to maximise benefits to consumers through better use of data?

Open data is fundamental to establishing and sustaining effective markets and enabling innovation to realise significant consumer and cross sector benefits. We therefore believe in the principle of energy system data being 'presumed open' and the publishing of transparent, data driven insights. This extends from sharing raw data sets, available in accessible formats stakeholders can readily access and harness; to the provision of insights and tools, that enable them to generate their own.

We believe this is key to enabling greater energy system understanding, more informed decision making and streamlined interactions. Data sharing is therefore fundamental to delivering more efficient and competitive markets, a dynamic whole energy system operation, and realising the associated consumer benefits, such as lower bills. On this basis, we believe that the following kinds of data should comply with the data best practice guidance:

- All data held by the ESO as a consequence of fulfilling our current licence conditions, subject to any privacy, security, consumer impact and commercial constraints
- Data exchanges, such as those relating to our obligations with Elexon, ENTSO-E and other industry partners
- Data relating to our 2020/21 Forward Plan, RIIO-2 Business Plan and digital strategy commitments, such as relating to asset registration, Grid Code, network capacity, planning and outages, and energy forecasts.

Managing uncertainty

Q19. Do you agree with our approach regarding legislation, policy and standards?

We agree with taking an open, flexible approach to potential changes to legislation, policy and standards. The ESO's pass-through funding model and two-year business plan aim to facilitate this, allowing changes to be taken into account, where appropriate, in further iterations of the plan.

Ofgem asks for views on potential changes in a number of specific areas. Our thoughts on these are below.

Brexit

Whilst the revised relationship with the European Union is still to be finalised, we expect a different type of relationship than the one that exists today. The changes are likely to incorporate different obligations that will amend core areas for the ESO business, such as how we trade across interconnectors and enable efficient

security of supply and balancing actions across a European market. All of these affected areas will require revised or new obligations to be developed and agreed. We expect the ESO to be heavily involved within this process.

With a change in obligations, particularly against the existing European codes, we can also expect a different type of engagement on both existing and future obligations with European transmission system operators (TSOs) and the European Network of electricity TSOs (ENTSO-E). This will require an enhanced engagement approach, with more resources available at a TSO level to be effective.

Engineering technical standards

This is a broad category and there is potential for a large number of changes that would be driven through existing mechanisms. An area to note is the ongoing review by BEIS of engineering technical standards⁵⁶. It is currently unclear whether the Security and Quality of Supply Standard (SQSS) is within scope of this review or whether it would be part of the Ofgem/BEIS energy codes review. Changes to the SQSS could drive additional costs to us as we assess and accommodate any changes to the Standard, which would then be reflected in our operational expenditure.

Access reform implementation

The Access and Forward Looking Charges Significant Code Review has the potential to have a significant effect on the ESO's people, systems and processes. We have provided further detail on these potential impacts in our response to Ofgem's request for information on this point, submitted on 14 August. An example of this impact is that the ESO may need to contract with all distributed generators above 1 megawatt (MW) and then administer Transmission Network Use of System (TNUoS) charges for these parties. This would increase the number of direct contracts with the ESO from approximately 400 to around 5,000. The full extent of this impact will not be clear until Ofgem's final conclusions in 2021, and the detail behind the proposals is developed and implemented by 2023.

Q16. Do you agree with our proposed re-opener windows for cyber resilience OT and IT, and our proposal to require all licensees to provide an updated Cyber Resilience OT and IT Plan at the beginning of RIIO-2?

We agree with the proposed timing of the reopener windows for cyber resilience information technology (IT) at regulatory year 2021 (1-8 April 2021) and 2023 (mid period, 25-31 January 2023). We welcome the opportunity to submit updated plans for cyber resilience IT at the beginning of RIIO-2 and support the proposal of no materiality threshold and no aggregation.

We intend to submit updated evidence as part of the April 2021 reopener window to justify our existing plans, as well as evidence to justify new or updated proposals for activities in respect of which allowances are not included as part of final determinations. These would take the form of updated appendices to our December 2019 Business Plan and should be read alongside that Business Plan rather than a new plan, as discussed with Ofgem's cyber team in our recent engagement sessions. We would be grateful for written confirmation that this is acceptable. We require further clarification on the process and timelines, including the evidence and granularity that Ofgem requires to assess our plans. This will help make the process for reopeners robust and agile.

We do not support the concept of an open-ended period for Ofgem to arrive at its reopener decisions. There must be a clear deadline within which Ofgem must make reopener decisions otherwise this adversely affects the efficiency of the reopener process, our planning and execution of work, utilisation of system access outages, and contracting with the supply chain.

Our response to Ofgem's draft determinations for Cyber Resilience OT and IT has been submitted separately, on a confidential basis.

⁵⁶ <https://www.gov.uk/government/publications/electrical-engineering-standards-independent-review>

Q17. What are your views on including the delivery of outputs such as CAF outcome improvement; risk reduction; and cyber maturity improvement, along with projects-specific outputs?

We agree that the price control deliverables should include delivery of outputs such as cyber assessment framework (CAF) outcome improvement, risk reduction and cyber maturity improvement. This is consistent with our December 2019 Business Plan.

We are committed to working alongside the competent authority in an efficient and effective manner to report our progress on these outputs. In relation to the periodic reporting requirements, there should be an obligation upon Ofgem to provide written views to us on our reports as we move through the RIIO-2 period. There is such a requirement already in the enhanced 2018 reopener reporting process. The purpose of these “handshakes” is to avoid any surprises at the end of RIIO-2.

Net Zero and innovation

Q20. Do you agree with our overall approach to meeting Net Zero at lowest cost to consumers? Specifically, do you agree with our approach to fund known and justified Net Zero investment needs in the baseline, and to use uncertainty mechanisms to provide funding in-period for Net Zero investment when the need becomes clearer?

Yes, we agree with the overall approach. There are many different pathways to net zero and meeting it at the lowest cost to consumers will require an element of flexibility in the regulatory arrangements.

It is appropriate to fund known and justified net zero investment needs in the baseline. For example, we support the decision to provide funding for hydrogen research. Hydrogen features in our net zero *Future Energy Scenarios* this year and provides a vital role in flexibility. Early research in technologies will better enable decisions regarding investments which will lead to changes in how the market and networks need to evolve.

We also agree that uncertainty mechanisms work where the funding does not have a clear investment case. While the net zero reopener is not applicable to the ESO, the Strategic Innovation Fund (SIF), network innovation allowance (NIA) and innovation through business-as-usual activities will play an important role in how we, alongside the network companies, can work together on more innovative projects that support net zero during the RIIO-2 period. Overall, we consider that uncertainty mechanisms can best protect consumers from funding projects which could be superseded by new technologies over the period of the price control. However, the mechanisms have to be sufficiently agile and transparent to enable swift decisions to be taken and should ensure that they take a considered approach to the timing of impacts on consumer bills. It may be that we have to sacrifice some of the 'lowest cost' today to make sure we can meet net zero more efficiently over the period. Furthermore, factors such as environmental impact, increased security of the grid and impact on communities, should also be part of the assessment of projects, beyond the cost impacts for consumers. This may need to be a risk-based decision on an ex ante basis in order to balance the impacts on both current and future consumers (e.g. whether early investment in offshore grids in advance of wind farms may save consumers money). The ESO’s incentive scheme should be designed to encourage these decisions to be taken, where appropriate.

Finally, we note that the proposal to improve coordination with government and other stakeholders is a valid one but it is imperative this does not unduly complicate the process for investment decisions with additional bureaucracy.

Q21. Do you think the package of cross sector and sector-specific UMs provides the appropriate balance to ensure there is sufficient flexibility and coverage to facilitate the potential need for additional Net Zero funding during RIIO-2?

We agree that the SIF is vital to delivering on the cross-sector engagement needed for net zero and welcome its creation across gas distribution and electricity transmission.

The package of cross sector and sector-specific uncertainty mechanisms (UMs) indicates some key mechanisms for the gas distribution and transmission networks. These appear to represent some vital areas of likely investment. For example, the medium investment and large onshore transmission investment (LOTI) UMs allow for the funding of solutions not covered in the baseline which are recommended through the

Network Options Assessment (NOA) or pathfinder process. Given the uncertainty on projects in the latter part of RII0-2, it is appropriate to have flexibility in how they are delivered. The package of UMs allows for increases in investment to meet net zero while allowing for different delivery mechanisms, such as through a UM or competitive process. It is important however that Ofgem is timely in its decisions to ensure that consumer value is maximised and projects can be delivered at the optimum time.

Q23. Do you agree with our proposals for the RII0-2 Strategic Innovation Fund?

We welcome Ofgem’s ambitious proposal for a SIF to replace the current Network Innovation Competition (NIC) funding, and we look forward to supporting Ofgem with it as well as participating with our partners.

It currently takes a minimum of 10 to 12 months to propose, approve and set up a NIC project. With this in mind, clarity is needed as early as possible on what the focus areas of the SIF will be, the conditions of the funding, and the mechanism for review and approval of proposals. Due to the ESO’s critical role in Great Britain’s energy system, and ESO involvement being necessary on the majority of whole system projects, we believe there would be great value in ESO being a key part of the discussions to set focus areas for the SIF, along with other networks and industry stakeholders.

The review, feedback and approval process of SIF proposals must be undertaken in a more agile manner than is currently the case, with a faster process and more opportunities for feedback. This will ensure that funding can be utilised effectively to address network issues in a timely fashion, as soon as they become apparent. This would solve the problems of the current annual NIC process, which is too slow and resource intensive, especially for smaller parties who cannot shoulder the burden and risk associated with proposal development, particularly if funding is ultimately rejected.

Ofgem’s aim to set Innovation Challenges during the price control as they arise, being agile in how applicants apply, receive feedback, then initiate projects, should ensure that the SIF is used in a more efficient and timely way. Implementing solutions through a more agile SIF would also avoid additional costs to consumers by mitigating issues earlier.

We believe that reducing the administrative burden on all parties would free up resources for innovation and allow for a wider set of project proposals as well as a larger participation in SIF projects by a more diverse range of consortiums participants, such as start-ups.

Q24. Do you have any comments on the additional issues that we seek to consider over the coming year ahead of introducing the Strategic Innovation Fund?

Our thoughts on the additional issues identified are outlined below.

The definition of 'innovation' for the purposes of the SIF

We encourage the SIF as a funding source to be directed towards larger development and demonstration activities, and to encourage the roll-out of innovative technologies and solutions which will help achieve the net zero target by 2050. We believe this funding should also include activities such as software and model development, as these digital and non-asset based innovations will be critical to achieving net zero.

Ofgem should consider how research activity could be included within SIF projects, as this would help to ensure these projects are building upon the latest knowledge before the more resource-intensive development and demonstration activities begin. For example, a short desktop study to collate the latest best practice or background information, before running a multi-year demonstration project, would be prudent and help avoid unnecessary costs.

The possibility of using one public sector energy innovation interface through which companies would apply for energy innovation funding

A single public sector energy innovation interface could simplify the route to funding for many third parties unfamiliar with the current innovation funding available. It could provide a new channel for wider participation in open innovation calls as stakeholders interested in innovation could sign up to one mailing list, rather than separate mailing lists for each network. This could also be an area to share key criteria for the innovation funding, the standard intellectual property rights position etc., as well as network and industry innovation strategies.

An interface would be difficult to implement for some time, and we do not believe this would be possible ahead of the RIIO-2 period. There should be a careful assessment of the benefits in undertaking this, compared with the effort and cost of doing so. Furthermore, there is a possibility that trying to align all the different innovation funding under one portal may create more confusion, due to the different conditions and expectations of each funding source.

The source of funds for the administration of the SIF

The costs of administration for the SIF could be covered by a flat cost shared proportionally between the TNUoS, Balancing Services Use of System (BSUoS) and National Transmission System charges, or a small fee for submitting new proposals (or a combination of these). Charging a small fee to submit proposals would help filter out weak applications, but also make the SIF administration more self-sufficient.

Potential challenges for design-only early competitions

We believe this would need to be assessed carefully by subject matter experts, to identify the feasibility of proposals and the consequences for the wider system. This type of challenge would potentially help identify regulatory, market, and code barriers which could be altered or removed to enable more innovative solutions to be implemented.

How we can build upon the existing joint gas and electricity innovation strategies network companies produce

These documents should be much more closely integrated with other relevant strategies (wider industry and cross-sector) to identify common whole system issues for innovators to solve. These could continue to signpost the more detailed strategies of each network and how stakeholders can participate in innovation activities.

How we can ensure network companies' knowledge dissemination activities build upon and link up with innovation activities funded by other bodies

Having one public sector energy innovation interface would help provide a channel for information about innovation activities funded by the different bodies.

We believe it will be difficult to find alignment with the different funding bodies and this will likely not be possible before the beginning of RIIO-2. There needs to be careful consideration to ensure that there is sufficient benefit compared with any additional administrative burden on networks and other innovators.

Q25. Do you agree with our approach to benchmarking RIIO-2 NIA requests against RIIO-1 NIA funding?

We agree with Ofgem's approach stated in the ESO specific draft determinations, that they "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". For RIIO-2 we believe it is sensible to benchmark the level of NIA funding for the ESO against balancing costs, rather than totex, as this is a better indication of the level of impact the ESO has on the system and corresponding level of costs which are passed onto consumers.

We appreciate that it is difficult to assess the ESO's justification for a large increase in innovation funding. Financial benefits from ESO innovation mainly affect future BSUoS charges, for example through improved system security, more competition in the markets and more accurate forecasting. These are inherently difficult to compare with a counterfactual and establish an exact value of savings to consumers. Other savings for the system can be a result of ESO innovation, such as a reduction in TNUoS charges due to non-build options being developed. We do believe that a qualitative cost benefit analysis of ESO innovation activities can demonstrate that they will have a proportionally larger benefit for consumers compared with the cost of projects and resulting cost of the ESO's NIA funding on consumers.

We believe that we have shown that the ESO's innovation function is effective. It has been designed with robust agile processes to make sure funding is only used efficiently, and to maximise the benefits delivered for Great Britain's energy system and consumers. Since implementing our robust innovation process in early 2017, we have consistently utilised close to all of the NIA funding available each year. We believe we could deliver even greater consumer benefits through NIA in RIIO-2 from the proposed increase in available funding for the ESO.

Q26. Do you agree with our proposal that all companies' NIA funding should be conditional on the introduction of an improved reporting framework?

Yes, an agreed methodology for reporting innovation projects would be useful to better understand the outcomes of projects and provide greater transparency on how NIA funding is being used to deliver benefits. We continue to support the development of this new framework through the Energy Networks Association (ENA) innovation managers working groups and in ongoing discussions with Ofgem. We are however concerned about the fact that this framework, having been developed by asset-based networks, may focus too much on the quantifiable financial returns of projects. As the ESO isn't an asset-focused business, unlike the other networks using NIA funding, it is likely that the ESO would find it difficult to quantify direct financial benefits from NIA projects accurately, while still being able to deliver indirect, long-term benefits for the whole system, and significant non-financial benefits (e.g. greater understanding of future system issues and de-risking of potential new solutions).

Q27. What are your thoughts on our proposals to strengthen the RIIO-2 NIA framework?

Our thoughts are as follows.

Scope of eligible projects

We believe that the measures to strengthen the NIA framework are already aligned with how the ESO currently uses its NIA allowance; to focus on higher-risk activities, or long-term benefits that won't be delivered during the price control period. Setting agreed criteria for what is deemed high risk would help avoid confusion and the possibility of discouraging innovators from pursuing beneficial projects, due to a perceived risk of disallowance.

We support Ofgem's requirement for projects to be related to the energy system transition or support for consumers in vulnerable situations. However, a clearer definition of these criteria is needed to avoid them being interpreted differently and provide certainty that projects won't have funding disallowed at a later stage (such as during the proposed quality assurance stages). It is also important that it isn't a requirement of every project to fulfil both these criteria, as setting this condition would severely restrict how NIA can be used. For example; many projects would qualify under the 'energy transition' requirement, however very few projects would qualify under both this and the 'support for consumers in vulnerable situations' requirement.

As long as the demonstration and testing of commercially available technologies can still be undertaken as business as usual innovation (which is funded via cost pass through for the ESO), we support this type of activity no longer being eligible for NIA funding. However, removing eligibility for all higher technology readiness level (TRL) innovation activities, such as demonstration and testing of innovative solutions which may involve novel applications of commercially accessible technologies (which would be higher risk than is acceptable under business as usual innovation), may only prevent a large proportion of innovative solutions from being de-risked to a sufficient level that they can be later implemented successfully into business as usual, allowing the full benefits for consumers to be realised.

Considering the impact of innovation upon vulnerable consumers

We agree that this should be a key consideration when developing new innovation project proposals in RIIO-2. It is important that any future outcome as a result of innovation doesn't adversely impact consumers, especially the more vulnerable. This could effectively be addressed when the benefits of an innovation project are assessed for *all* consumers, rather than an additional impact assessment specifically focused only on vulnerable consumers. Ensuring potential risks to consumers are fully considered at the start of a project will help mitigate any negative future impacts and identify where closer engagement may be needed with relevant stakeholder groups to understand the risks better.

Improving public reporting of the NIA

Along with other ENA members, we will continue to work with Ofgem to make sure there is a new benefits reporting framework in place for NIA in RIIO-2. We believe it is important to be transparent and share the results of innovation projects as widely as possible. While it may be difficult to give precise figures on the benefits of innovation projects, especially where these are longer-term, indirect benefits, being able to indicate

the potential scale of benefits from NIA projects is important. This will help promote the value that this innovation can deliver for consumers and the energy system.

IPR guidance for third parties

We agree with Ofgem's proposal to collectively produce intellectual property rights (IPR) guidance to help third parties become more involved in NIA projects over RIIO-2. Having a clear guidance on the options for how intellectual property from innovation projects can be owned, shared and commercialised, would help remove some of the confusion around different treatment of IPR within each of the companies. This common guidance would need to align carefully with the conditions on disseminating project outcomes, protecting commercial interests, relevant European and Great British law, while also avoiding unfair competitive advantages and the risk of consumers overpaying for future solutions which they have funded development of through NIA.

We are concerned that producing this guidance will require a lot of engagement with legal representatives within the network companies and other external stakeholders, and that different interests and legal positions will mean that agreement on a final guidance will take some time. It is important to begin this process as soon as practical, to make sure that new NIA contracts, which must incorporate this common IPR position, are ready for the start of RIIO-2.

Q28. Do you have any additional suggestions for quality assurance measures that could be introduced to ensure the robustness of RIIO-2 NIA projects?

A process to challenge project ideas is already in place within the ENA Electricity Innovation Managers' group. In this group, proposal summaries are shared early, allowing the ESO and networks to challenge each other on proposed project details, or indicate if they wish to collaborate. This approach also helps to avoid duplication of activities. In addition, there is a ten-day review period for new Project Eligibility Assessments (PEAs) to allow the ESO and the networks to comment on the final details for each other's projects before they begin. Along with the quality assurance measures proposed by Ofgem, and the conditions of NIA funding, we believe there are sufficient mechanisms in place to ensure funding is being used responsibly, for the benefit of the system and ultimately consumers.

We encourage these measures to be implemented in a way that minimises administrative burden on the networks and innovators, allowing their resources to remain focused on the innovation activities.

There should be a fair challenge process following the quality assurance measures and any penalties should be proportionate. This is to avoid disincentivising risk-taking, which is a necessary component of NIA innovation.

Q29. Do you agree with our proposals to allow network companies and the ESO to carry over any unspent NIA funds from the final year of RIIO-1 into the first year of RIIO-2?

To avoid a 'cliff edge' in innovation activity in the run up to RIIO-2, we strongly support having transitional arrangements to allow the final year of RIIO-1 NIA funding to be accessible during the first year of the new price control. This would allow networks and the ESO to maximise the innovation they can undertake with existing funding, until there is clarity on the exact conditions of the new RIIO-2 NIA funding. Projects take time to develop and agree on contract terms, meaning that it may be some time before projects can begin following the start of RIIO-2. Having this transitional arrangement, to carry over unspent NIA funds, will hopefully smooth this trough in activity by allowing existing projects to continue beyond the end of RIIO-1.

This could be further supported by Ofgem allowing projects started in RIIO-1 to be able to access RIIO-2 funding as soon as the new price control begins. If there is certainty provided by Ofgem that these projects would be allowed to continue, assuming they meet the criteria for NIA, then the current level of innovation activity could be continued into the start of RIIO-2, possibly with only small amendments needed to NIA project contracts.

Automatically having agreed transitional arrangements in place ready for the end of RIIO-2 would avoid the same issue at the end of this next price control. This will help avoid another cliff edge in activity and the need to duplicate current discussions on transitional arrangements for future innovation funding.

Increasing competition

Q31 Do you agree with our proposed position on late competition?

Yes, we agree with the proposed position on late competition. We believe that competition should be introduced whenever it is in the interests of consumers. Competition risks delaying projects and therefore it is important that the cost of any delay is factored into the assessment of consumer benefit that running a competition could deliver.

We believe it is reasonable that projects funded under uncertainty mechanisms should be considered for late competition and those that are covered in baseline funding are not. This allows for flexibility around a changing environment and the uncertainty on need and timings of projects. We also agree that it is right to consider a case-by-case approach to assessing consumer value that can be driven by competing a project. All projects are unique and have differing levels of complexity and their own particular challenges. Where competition might deliver consumer value in one instance may not be the case in another. We agree that TOs should continue to develop economic and efficient solutions. While we agree TOs should not carry out any development work on eligible uncertainty mechanism projects that is detrimental to the application of late competition, TOs have an obligation for the efficient development of the network. This may lead to changes to a solution to make it more economic or efficient, which could have an impact on its suitability for late competition. In such instances, we would expect a TO to be able to robustly demonstrate the rationale for the changes through an economic evaluation of the original and revised solutions.

It is important, however, that this case-by-case assessment does not lead to project delays. Any assessment of the value to competing a project should be run in parallel with the project development. Timeliness of decisions on whether to compete projects are key. Competing projects will add delays, which could result in consumer disbenefit, for example in the case of increased constraint costs.

We also agree that the case-by-case evaluation process should be common across all sectors. We expect that the methodology would be consulted upon and published for transparency. We also believe it is important to measure and evaluate the value that competition delivers to make sure that it is, and continues to remain, in the interest of consumers. The evaluation of the benefits of competing projects should be measured against the costs of running the competition and be made available for transparency. This will allow industry to gain confidence in the value competition can deliver, while a 'lessons learned' evaluation will also deliver improvements to the process to increase efficiency.

Q32. Do you agree with our proposed approach on early competition?

We agree that for projects that are subject to either medium-sized investment projects (MSIP) or LOTI processes, suitability for early competition should be considered. Ofgem should also ensure that any other baseline funding or uncertainty mechanism arrangements do not inadvertently exclude projects from early competition.

In addition to early competition, the ESO also set out our intentions to embed our pathfinder competition approach during RIIO-2. This could include competing projects below £25 million. Ofgem's proposals for baseline funding therefore need to consider how the funding arrangements would work in these circumstances.

As noted by Ofgem, we are currently developing model(s) for early competition with stakeholders. Our Early Competition Plan (ECP), to be published next year, will set out our view of the criteria that should be used to identify projects suitable for early competition and what we believe is a possible pipeline of projects, based on options considered as part of the NOA process. Our current proposals to not have a value threshold received mixed response from stakeholders. Some stakeholders oppose this approach, while an equal number supported it. As part of continuing to develop our thinking, we will consider how early competition will interact with the project reopeners such as MSIP and LOTI. The ECP will also set what, if any, additional roles and responsibilities the ESO could take in facilitating early competition. This will be accompanied by proposals for reward and incentive mechanisms to deliver them. These proposals will also have been discussed and consulted with stakeholders, ahead of submission to Ofgem.

Interlinkages in RIIO-2, post appeals review and pre-action correspondence

Q38. Do you have any views on the interlinkages explained throughout this chapter?

We agree that there are interlinkages within the RIIO-2 package and note that many of the examples given within the consultation document relate to interlinkages between the financial package and other aspects of the price control. We also note that many of the examples are typically based on the proposals for the transmission and gas distribution networks, rather than being specific to the ESO, so we comment by exception only.

The cost of debt allowance for the ESO has not been set with reference to totex allowances, capitalisation rates or depreciation as the bespoke nature of the ESO cost of debt proposals is such that there is no need to consider a distinction between embedded and new debt when it comes to the financing of the Regulatory Asset Value (RAV).

Ofgem identifies an interlinkage between additional funding for the ESO and the cost of equity, financeability, asymmetry, rules for cost disallowance and incentive value. Ofgem are correct to identify such a linkage but place undue emphasis on the link between additional funding and cost of equity, and insufficient weight on the link between additional funding, asymmetry and the rules for cost disallowance.

The requirement for additional funding is due to there being risks and activities not adequately compensated by a return on the RAV because the risks and activities, and magnitude of them, are not adequately reflected in the RAV. There is minimal value in the RAV relating to the revenue collection role. Ofgem has recognised this and awarded additional funding, albeit insufficient additional funding.

Ofgem's assessment of additional funding is clear in that they do not believe the proposals to be asymmetric, and do not consider disallowance risk to be any greater than for networks, so they have not included any additional funding to compensate for the asymmetric risk of cost disallowance. As explained in our response to ESOQ23, this assessment is fundamentally flawed. The cost disallowance risk faced by the ESO is materially greater than networks, both from a quantum perspective and from a likelihood of occurrence, with the rules for disallowance applying only to the ESO and serving to illustrate the increased likelihood of disallowance. Once this assessment is reconsidered, the interlinkage correctly identified by Ofgem is such that the correct and rational response would be to increase the additional funding proposed.

As explained in response to Q39 below, the interlinkage on additional funding omits to consider the outputs expected of the ESO and the intention for the ESO to be proactive, ambitious and agile.

Q39. Are there other interlinkages within our RIIO-2 package that you think are relevant to the three pillars identified in this chapter?

Please see our response to Q38. The potential working capital requirements for the ESO and costs of procuring a working capital facility (WCF) are additional interlinkages with Ofgem's decision on additional funding for the ESO. Ofgem's draft determinations state that it includes funding of £0.6 million for the WCF. As explained in our response to ESOQ28, this level of funding is insufficient to cover the ESO's current contractual obligations and insufficient to cover the level of facilities required in the first two years of RIIO-2 as a result of COVID-19. Developments in how future BSUoS charges are levied will also likely impact on these working capital requirements.

A further interlinkage omitted from the chapter is the objectives that stakeholders have for the ESO to be proactive, ambitious and agile. As explained in our response to ESOQ29, the proposed package encourages reactivity, caution and risk aversion.

Q40 Do you have any views on our proposal to include a statement of policy in final determinations that in appropriate circumstances, we will carry out a post appeals review and potentially revisit wider aspects of RIIO-2 in the event of a successful appeal to the CMA that had material knock on consequences for the price control settlement?

We are unclear why this proposal is needed. The Competition and Markets Authority (CMA) itself is able to consider interlinkages and consequential impacts in respect of those areas which are appealed. In responding

to an appeal, it is also open to Ofgem to consider interlinkages and consequential impacts, and indeed expected, that these points would be raised. We therefore expect these interlinkages should be picked up by either the CMA or Ofgem and therefore there is no requirement for a statement of policy on a post appeal review to be included in the final determinations.

Q41 Do you have any views on the proposed pre-action correspondence, including on the proposed timing for sending such to Ofgem?

We agree that it is beneficial that, should the ESO continue to have concerns around key elements of the price control following final determinations, and prior to the statutory consultation on licence conditions, that it should raise these concerns with Ofgem. There is however, only value in such engagement, if there is the possibility that Ofgem may then change its decision. In the draft determinations there is no indication as to how Ofgem will engage with any party regarding any pre-action correspondence. To be of any value, parties need to be assured by Ofgem that any concerns will be properly considered. The ESO also has the ability to raise concerns during the statutory consultation on licence modifications prior to the Licence Modification Decision (LMD) being made by Ofgem, which is the formal decision capable of appeal to the CMA.

We do not consider it is appropriate to expect the ESO to go as far as having to clearly explain its intention to appeal, the elements of the price control that we intend to appeal, the scope of the appeal including, in sufficient detail, the alleged errors, and why that particular component(s) of the price control is wrong having regard to interlinked aspects of the decision. We would not be in a position, particularly prior to the LMD to be able to fully state this position. The ESO would need time to have reflected on its position following the LMD and any further analysis the ESO may decide to do. Given the time permitted between the LMD and the appeal to the CMA (20 working days⁵⁷), we do not consider that there is sufficient time to have any pre-action correspondence with Ofgem and would also see no value in doing such at this latter stage.

Impact of COVID-19 on the price controls

Q42. Do you think we need specific mechanisms in RIIO-2 to manage the potential longer-term impacts of COVID-19? If yes, what these mechanisms be?

The ESO expects to see some significant impacts on cashflows because of COVID-19, as outlined below. We think it is appropriate that mechanisms in RIIO-2 ensure that the ESO is adequately funded to manage the impacts.

TNUoS demand reduction

We are already seeing lower demand on the electricity transmission system because of businesses being impacted by COVID-19. It is difficult to predict what the full year impact on collection of TNUoS revenues will be, as this will depend on how the pandemic develops over the coming months and in particular what demand will be over the winter period. However, we do expect that overall volumes will be below those used for tariff setting and that there will be a significant under recovery of revenues for the 2020/21 charging year. This under recovery will be funded by the ESO until passed back in future TNUoS charges in the charging year 2022/23. Ofgem's draft determinations do not make provision for the transitional period in transferring TNUoS cash risk to the onshore transmission owners and therefore does not adequately compensate the ESO for its funding of the K correction factor, which we could reasonably expect to be far higher than in any other year in the RIIO-1 price control and far higher than we have provisioned in the sizing of our working capital facility. We consider that the ex ante allowance for additional revenue should be adjusted to reflect the higher level of working capital and contingent equity required. This is discussed more in detail in our response to ESOQ27.

Industry bad debt

We expect that the liquidity of many businesses will be impacted by COVID-19 and we welcome Ofgem's intervention to offer targeted support through payment extensions for eligible suppliers. The ESO continues to carry the cost of bad debt for both TNUoS and BSUoS charges. We expect that in 2020/21 there will be an increase over the levels of bad debt we have seen in recent years due to the impact of COVID-19. We approve of Ofgem's proposals to make changes to the RIIO-2 licence to allow the ESO to recover efficiently

⁵⁷ Sch 5A, para 1(3) of the Electricity Act 1989

incurred bad debt, which would include RIIO-1 bad debt and any increased level of bad debt we might see driven by COVID-19.

BSUoS industry support

The COVID-19 pandemic has driven periods of exceptionally low demand and led to extremely challenging balancing conditions on the UK electricity network. This in turn has increased balancing costs and driven much higher costs in some settlement periods than market participants have forecast. This has resulted in Ofgem approving modifications to the Charging and Use of System Code (CUSC) which effectively defers the charging of costs incurred by the ESO to the following charging year. This results in the ESO having to fund such costs until they can be recovered by March 2022. The ESO would ordinarily be broadly cash neutral in incurring and charging out BSUoS costs, but because of these exceptional circumstances will fund up to £100 million of industry costs, allowing suppliers to price the recovery of these costs into their future tariffs. The cost of the ESO funding these arrangements in the first year of the RIIO-2 price control is not currently provided in Ofgem's draft determinations. We consider it fair that the ESO should be remunerated for the level of credit facilities that is needed to manage this impact and for the additional contingent equity associated with the facility provision.

Whilst we await the outcome from the BSUoS Task Force, we note that the recent CUSC modification to fix BSUoS charges potentially signals a move towards future policy changes. Any future decision to fix tariffs would introduce an additional significant risk to the ESO as charges are extremely volatile and would require amendment to the package for additional funding. We comment on this in more detail in ESOQ33.

RIIO-2 draft determinations: ESO response to finance annex

Several of the consultation questions asked in the finance annex are not directly relevant to the ESO. This document therefore responds to a selection rather than all the consultation questions. Conversely, the consultation invites views on a number of topics without including them as specific questions. Our comments on these topics are included at the end of this document.

Allowed return on debt

FQ1. Do you agree with our approach to estimating efficient debt costs and setting allowances for debt costs?

The allowed return on debt in the Finance Annex relates to the ET, GT and GD sectors. We have commented on the cost of debt allowances for ESO in the response to the ESO's draft determinations ESOQ25.

FQ2. Do you agree with our proposal to use the iBoxx GBP Utilities 10yr+ index rather than a combination of iBoxx GBP A and BBB 10yr + non-financial indices?

These indices are specific to the allowance for cost of debt for ET, GT and GD sectors. We have commented on the use of the iBoxx utilities index for the ESO in our response to the ESO's draft determinations ESOQ25.

Equity beta questions

FQ5. In light of RIIO-2 draft determinations and Ofwat's final determinations for PR19, do you believe that energy networks will hold similar systematic risk during RIIO-2 to water networks during PR19?

This question concerns the energy networks rather than the ESO. It is not clear why the systematic risk would be the same for the different industries and we observe an increased level of uncertainty and pace of change for the energy industry compared to the water sector that is likely to drive increased systematic risk.

FQ6. Is there evidence of a material difference in systematic risk between:

- a) RIIO-1 and RIIO-2,**
- b) distribution and transmission networks,**
- c) gas transmission and electricity transmission,**
- d) gas and electricity?**

This question is not directly relevant to the draft determinations for the ESO. We note that in the ESO draft determinations document, Ofgem highlights two potential changes in terms of systematic risk between RIIO-1 and RIIO-2 for the ESO. Both comparisons are of limited relevance as the systematic risk and asset beta of a legally separate ESO was not considered at the time RIIO-1 was set.

Further commentary on the systematic risk for ESO can be found in our response to ESOQ26 and the KPMG report in Annex 2 of our consultation response.

Step 2: implied cost of equity

FQ8. Do you agree with our interpretation of cross-checks?

Ofgem states that no adjustment has been made to reflect the cross checks for the ESO. They do however comment that this is because of uncertainty over the ESO asset beta estimate where they have already considered the impact of what they describe as "risk reduction policies".

Our comments on the ESO asset beta and these policies can be found in our response to ESOQ26 and the KPMG report provided as Annex 2 to our response.

The cross checks are of less relevance to the ESO than the networks given that the ESO is an asset light organisation and acknowledged by Ofgem to be higher risk than the networks.

Step 3: allowed return on equity

FQ9. What is your view on the overall in-the-round assessment of allowed returns to equity? Is our judgement of 3.95% at 60% notional gearing reflective of the combined analysis through Steps 1, 2, and 3?

The cost of equity allowance of 3.95 per cent is not directly applicable to the ESO. Our views on the cost of equity allowance for the ESO can be found in response to ESOQ26.

We do not agree with some of the individual parameters that contribute to the 3.95 per cent which are equally relevant to the ESO, such as the assumptions for risk-free rate, total market return and debt beta. We would anticipate these parameters being updated to reflect the provisional outcome of the CMA PR19 appeal.

Financeability

FQ12. Do you agree with our approach to assessing financeability?

We agree with Ofgem's decision to target a Baa1 / BBB+ rating for the notional business. The ESO's rating is underpinned by an assumption by the rating agency of parental support and a substantial £550 million working capital facility. Ofgem should ensure the ESO is independently financeable as a stand-alone entity so that it does not have to rely on parental support to achieve the required notional rating. In the ESO draft determinations Ofgem makes the assumption that if liquidity risk halves, the downward notches included in the rating assessment for the ESO will also be halved. This assumption overstates the rating benefit of the changes to date and reflects a misunderstanding of how the rating process operates. Moody's have subsequently updated their rating to reflect the expected reduction in risk resulting in a single notch improvement but on negative watch. This assessment reflects the revised treatments of TNUoS risk and bad debt risk but does not yet reflect any future increase in cash volatility from any further developments with BSUoS fixed charges.

We welcome Ofgem's recognition that a consideration of financeability is relevant both to debt and equity. We also note that the equity metrics considered by Ofgem are RAV focussed. Ofgem focus on the allowed return on equity financing of the RAV and metrics such as dividend yield and dividend cover again focus on the RAV financing equity of the notional business. The ESO is an asset light business managing risks and providing services that are largely decoupled from the size of the RAV and so any equity return on that RAV. Ofgem gives insufficient regard to an assessment of metrics more relevant for asset light businesses such as EBIT margins.

Our comments on the financeability of the ESO and Ofgem's approach to assessing it, as well as the relevance of EBIT margins, can be found in our response to ESOQ29 and in the KPMG report included as Annex 2 to this response.

An assessment of financeability is usually seen as a cross check that the package as a whole works. It serves the purpose of testing the financial package to make sure an error has not been made and that the cost of capital has not been set too low. We therefore disagree with the statement that Ofgem cannot justify giving investors a higher cost of capital to maintain financial metrics. Where metrics are too low it might be

because of an error in the financial package at which point the appropriate course of action would be to improve the financial package.

Reducing gearing can improve the financeability of a network but Ofgem's approach of amending equity returns to maintain the same allowed return means the combination of the financeability assessment and approach to setting gearing will not capture or remedy an underlying error in the initial choice of cost of capital.

FQ13. Do you agree with our approach to determining notional gearing for each notional company?

The ESO is an asset light business. Asset light businesses are generally associated with lower levels of gearing and an alternative approach to determining notional gearing is appropriate. Ofgem has not adopted the approach described in the Finance annex to the ESO and we agree with that decision.

FQ14. Do you have any evidence that would suggest we should consider adjusting our notional company financing assumptions due to the impact of COVID-19?

As outlined in our response to question ESOQ27, the size of our working capital facility is impacted in the first two years of the RIIO-2 period by the expected shortfalls in revenue collection in 2020/21 resulting from COVID-19. More specifically these shortfalls relate to TNUoS demand levels and the implementation of CUSC⁵⁸ modification CMP350, which could result in net cash outflows of up to £350 million. We therefore consider that the capital base in the calculation of returns for the ESO, and its ex ante additional allowance should be updated accordingly. Our estimate of a revised range for the additional ex ante allowance is set out in ESOQ27.

Corporation tax

FQ15. Do you agree with our proposal to pursue Option A?

We agree with the proposal to pursue Option A, subject to our comments below on the additional protections. A notional tax allowance has worked well in RIIO-1 and it is important to retain an incentive for licensees to manage their tax affairs efficiently in the best interest of customers and to appropriately negotiate with HMRC.

In addition, as all incentives will be reported through the price control financial model (PCFM) there can be a dynamic calculation to ensure that all incentives consistently operate on a post-tax basis. We note that Ofgem's RORE range for the ESO implicitly assumes the incentive to operate on a post-tax basis and request that Ofgem explicitly confirm the ESO incentive range of -£ 6 million to + £15 million will be funded on a post-tax basis for the RIIO-2 period.

FQ16. Do you agree with our proposals to roll forward capital allowance balances and to make allocation and allowance rates Variable Values in the RIIO-2 PCFM?

Roll forward of PCFM capital allowance balances

We agree with the proposal to reset the opening capital allowance pools to actuals for the ESO.

Variable values in the RIIO-2 PCFM

We agree with the principle of making allocation and allowance rates variables within the RIIO-2 PCFM as this will better reflect the actual capital allowance position which in turn will reduce any reconciliation differences.⁵⁹

⁵⁸Connection and Use of System Code

⁵⁹ Our CT600 capital allowance claims are based on a review of individual projects and, as such, are not driven from a regulatory asset class categorisation. If pool balances were reset to actual and if allocation percentages were updated on a two-year lag basis to better correlate to allocations in the CT600, we would still expect there to be some level of reconciliation difference between the notional and actual capital allowance measures.

However, as the CT600 will not be available when the Annual Iteration Process is completed for the preceding regulatory year, there will be a three year time lag to actual CT600 pool allocations are reflected in the revenues received (e.g. actual pool allocations for FY22 will only be reflected in the PCFM in FY24, which will then impact the adjustment amount collected in FY25). The revenue adjustments for FY24, 25 and 26 would all fall into periods beyond T2. This contrasts with OFGEM’s aim that making the capital allowance allocation rates variable values will “enable updates during the price control.”

Given the ESO pool values are not as significant as those associated, for example, with transmission, it may be simpler to retain ESO specific non-variable allocation rates but with a specific Tax Reconciliation narrative requirement to explain any in year variance. In our view, the case for a more simplistic non-variable allocation rate is further enhanced if a separate intangible assets “pool” is created (see further below)

If allocations remain variable, OFGEM should provide guidance on the process for updating allocation rates (and the trigger for doing so) such that, at the very least, the timings of any revenue adjustments are clear.

Intangible assets

We note that intangible assets have not been separated out within the PCFM. As previously highlighted, intangible assets do not fall within any of the capital allowances pools and instead tax relief is taken for the accounting amortisation charge arising on such assets. Intangible assets are typically amortised over a shorter period of time than tax relief is given through any capital allowance pool. As well as potentially disadvantaging customers, it creates another variance between actual tax and notional tax and, hence, a residual tax difference in the tax reconciliation.

As a significant proportion of the ESO’s capex will be on intangible assets we recommend that this class of assets be separated out into its own ‘pool’ with an appropriate amortisation rate (that could be variable within the PCFM to reflect the mix of amortisation rates that might be applied) to allow for the notional tax relief to better match the tax relief that will be claimed in the CT600. We would be happy to work with Ofgem to incorporate this into the new PCFM model.

In the absence of such a pool we request that Ofgem provide guidance as to how intangible assets should be treated within the PCFM (that is, which capital allowance pool these should be allocated to).

FQ17. Do you agree with the proposed additional protections? In particular:

a) Do you have any views on a materiality threshold for the tax reconciliation? Do you think that the "deadband" used in RIIO-1 is an appropriate threshold to use?

We agree that a materiality threshold should be incorporated into the tax reconciliation process to allow for immaterial unexplained differences.

We also agree that the deadband is an appropriate measure for the materiality threshold as it reflects the relative size of the business being undertaken although guidance needs to be provided in how to calculate the deadband and the figures to be used in the calculation.

As noted below, in order to better link the tax reconciliation process to the Tax Review process, we recommend that the materiality threshold adopted for the Tax Reconciliation process mirrors the threshold adopted for the first trigger condition under the Tax Review.

b) Do you have any views on our proposals to retain the Tax Trigger and Tax Clawback mechanisms from RIIO-1?

Tax trigger mechanism

We support the retention of a tax trigger for those items that cannot be incorporated as variable values with the Annual Iteration Process, including specifically what under RIIO-1 are referred to as the Type B tax trigger events. This is important in ensuring that a mechanism is retained to address changes in tax legislation or accounting practice that materially impact on a Licensee’s actual tax liability.

We also agree with the proposal to replace the macro with variable rates as discussed above.

Tax clawback mechanism

In relation to the tax clawback mechanism, whilst noting that this is proposed to be retained from RIIO-1 we would request that the policy objectives and rationale underpinning the tax clawback be revisited as part of the

wider RIIO-2 package. Given the introduction of the tax review it is not clear that there is merit in retaining a separate mechanism.

We agree with Ofgem's proposal not to apply the claw back mechanism to the ESO for the first two years of RIIO-2 as a result of the impact of Covid-19 on debt and gearing. The ESO has a small RAV, high levels of incentive exposure and totex relative to RAV, and exposure to additional short-term timing differences managed through a working capital facility. This facility is a material additional form of debt on top of the debt to finance the RAV. There is a high likelihood that the ESO could breach the tax clawback threshold despite retaining structural debt in line with the notional gearing assumption. We think it would be more appropriate therefore not to apply the claw back mechanism to the ESO.

As a minimum, if the claw back is to apply to the ESO after the first two years, the claw back mechanism should be modified to exclude short term timing impacts, for example by excluding the working capital facility.

If the claw back mechanism is to be retained, we agree with the proposal for a gradual decrease in the notional gearing level used in the gearing level test of the tax clawback calculation, as shown in Table 37 of the Finance Annex. We assume that the ESO would be added to this table given the proposed reduction in its notional gearing from 60 to 55 per cent.

c) Do you have any views on the proposed process for the Tax Review?

In our view, a tax review should only be triggered where it is proportionate, and a licensee should not be left uncertain several years after an accounting period as to whether a review will be opened.

The first trigger event is where there are material, unexplained differences between the notional allowance and actual tax costs, which have not been adequately addressed in the commentary to the reconciliation.

We agree this is an appropriate trigger event, but to be proportionate, an appropriate materiality threshold is required. In our view, this should be the same materiality threshold used for the tax reconciliation. It would be odd if a variance was small enough to be an acceptable unexplained difference for reconciliation purposes but large enough to be capable of triggering a tax review.

To provide certainty to licensees, as material unexplained differences will be reviewed as part of the tax reconciliation process, we recommend that Ofgem's ability to trigger a tax review based on this first trigger lapses on or around the closing out of the tax reconciliation process.

The second and third triggers event are where (i) Ofgem is notified of a valid concern by the licensee, any other licensee or other stakeholders and (ii) where a licensee undergoes a change in ownership, or a material change in circumstances that is likely to affect their tax costs.

It is not clear to us what concern these triggers tackle that wouldn't be by the first trigger. If the purpose of the tax review is to enable Ofgem to establish whether the notional tax allowance remains appropriate and the test for measuring appropriateness is a comparison of actual tax costs to the notional tax allowance, the first trigger should be all Ofgem require. Consequently, in our view, a single trigger tax review would be sufficient for Ofgem to achieve their policy aim.

If the second and third triggers are deemed necessary, to provide certainty to licensees, Ofgem's ability to trigger a tax review should lapse 24 months after the end of the accounting period in which the trigger event occurs (which we additionally note would be after the reconciliation cycle for that period)

d) Do you have any views on the proposed Board Assurance Statement?

We have submitted drafting recommendations on the proposed Board Assurance Statement through the Licence Drafting Working Group and, as such, we refer you to our comments included within the Issues Log in relation to the Board Assurance Statement.

Drafting recommendations aside, our key comment is on timing. As noted in the Finance Annex, due to the timing of CT600 submissions, a tax reconciliation will need to be performed with a one-year lag (that is, a reconciliation for the 2021/22 year will be submitted by companies in July 2023).

The Board Assurance Statement, as currently drafted, asks for a certification for the preceding regulatory year to be provided no later than 31 July. The CT600 will not have been submitted by this point so the Board Assurance Statement will need to be completed on the same one-year time lag required for the tax reconciliation process.

The Board Assurance Statement also requests copies of the Senior Accounting Officer (SAO) submissions. The Data Assurance Guidance requirements already cover the licensees' internal assurance processes and

controls which is essentially what the SAO certification covers. Requesting the SAO certification is therefore an unnecessary duplication. As such, the requirement to submit SAO certificates should be removed.

Indexation of RAV and calculation of allowed return

FQ21. Do you agree with our proposal to implement CPIH inflation?

Ofgem's intention to move from RPI to CPI or CPIH has been trailed for a long time and we agree with the decision to move to CPIH, provided the transition honours the regulatory commitments made previously. At the time of proposing a switch to CPI or CPIH, Ofgem were clear that the transition would be value neutral yet the cross check of whether the transition is value neutral or not has either not been performed or been disregarded.

At the time, the expectation was that the transition from RPI to CPIH would likely result in allowed real returns on a CPIH stripped basis being higher than those on an RPI basis by the expected difference between RPI and CPIH. An RPI stripped return would have been calculated with reference to an RPI stripped total market return value using historic data both for nominal market returns and RPI.

While the debate about the suitability of RPI is well documented, historic RPI data carried the status of being official Office of National Statistics data and, as such, is suitable for use. In contrast the CPI back cast data series more recently created, bears no such status, suffers from its own shortcomings as a data set, and is expected to be revised.

A consequence of using this unofficial data set is that the cross check of comparing returns that would likely have been awarded without a transition to CPIH and returns proposed to be set on a CPIH stripped basis fail the basic value neutrality cross check originally envisaged breaking the regulatory commitment made.

FQ23. Do you agree with our proposed assumptions for capitalisation rates?

We agree with Ofgem's principle that capitalisation rates should reflect the distinction between opex and capex. The capitalisation rate should be set at the 'natural' rate reflecting capex as a proportion of totex. The option to adjust the capitalisation rates for financeability considerations is not a long-term solution and cannot be deployed without breaking alignment with regulatory principles. As the ESO's annual expenditure is large compared to its RAV a relatively minor discrepancy between the capitalisation rate selected and the natural rate can have a significant impact on its profitability. Our Business Plan submission reported a RIIO-1 forecast capitalisation rate outturn of 33 percent compared to the PCFM rate of 28 percent. This difference contributed to a significant mismatch between regulatory and accounting depreciation. Therefore, having a capitalisation rate close to the natural rate over the price control period is preferable.

While we agree with the principle of using a natural rate, we do not agree with the rate proposed in draft determinations or setting a single rate for five years. The capitalisation rate quoted for the ESO in Table 40 of the finance annex of 41 per cent is based on Ofgem's view of the total five-year forecast expenditure for the RIIO-2 being the total of certain (benchmark) and uncertain costs. As the ESO will be submitting business plans on a 2-year cycle which will update the spend profile submitted in the December Business Plan, setting a capitalisation rate for the full five years of RIIO-2 period is inappropriate.

We propose the capitalisation rate for the ESO should be calculated using an ex ante natural split of totex on an annual basis which would better reflect the year on year variation in ESO's capital spend and hence ratio of capex to totex. To achieve the total benefits of the pass-through model the capitalisation rate could be iterated during the year using the proposed dynamic revenue process for the ESO (ESOQ37) to reflect a natural rate for reforecasts of totex expenditure. This proposal would see the capitalisation rate set as a variable value in the price control financial model (PCFM).

We expect that ESO revenues would be set based on our complete cost forecast, rather than to limit recovery to costs that Ofgem have pre-assessed as efficient, therefore we agree with Ofgem's approach that the calculation of the capitalisation rate should use the total cost forecasts and not just the cost benchmark. Basing the capitalisation rate on the cost benchmark, which excludes projects which Ofgem will review during the year, would skew the natural rate.

We note that we are unable to replicate the capitalisation rate using the opex/capex split included in Ofgem's licence model (LiMo). This is because the Cyber opex UM expenditure has been incorrectly categorised as

capex expenditure. For full transparency and to enact the calculation rate via the PCFM all expenditure must be categorised correctly.

FQ24. For one or more of the aggregations of totex we display in Table 40, should we update rates ex-post to reflect reported outturn proportions for capex and opex?

As noted in FQ23 ESO's annual expenditure is large compared to its RAV and therefore a relatively minor discrepancy between the capitalisation rate selected and the natural rate can have a significant impact on its within year profitability. The requirement to update totex ex-post is to smooth significant departures from the ex ante rate and will impact revenues on a time-lagged basis. This time lagged approach will add to the risk of significant profit volatility.

The suggestion in FQ23 of setting the capitalisation rate on an annual basis and allowing for additional updates during the year, based on our complete cost forecast rather than Ofgem cost bench-mark, through the dynamic revenue setting process would allow the ESO to be very close to the natural rate within the year removing the need for an ex post adjustment and mitigating the risk of profit volatility.

RAV opening balance

FQ25. Do you agree with our proposal to use the closing RIIO-1 RAV balances as opening balances for RIIO-2?

We agree that the closing balance for RIIO-1 should be used as the opening balance for RIIO-2 and note that the closing RIIO-1 RAV can only be finalised after the close of the RIIO-1 period after including the agreement of associated close-out items. This approach will demonstrate regulatory certainty for investors and credit agencies.

The RIIO-2 price control will be based in 2018/19 prices. The RAV will be indexed using RPI to the end of 2020/21 and then CPIH during RIIO-2. The LiMo currently includes forecast RPI and CPIH values for the final two years of RIIO-1. To ensure value neutrality these forecasts values will need to be updated to actual values.

FQ26. Do you agree with our proposal to use estimated opening RIIO-2 balances until we have finalised the closing RIIO-1 RAV balances?

We agree with the principle of using estimated opening RIIO-2 RAV balances until finalisation of the closing RIIO-1 RAV balances.

On moving from an estimated to a finalised opening RAV balance, there will be a change in return and depreciation allowance which will revise revenues for all regulatory years up to the year in which the balance is finalised. The magnitude of this change should be minimised as it will have an impact on consumer bills.

Since the submission of the July 2019 RRP costs and allowances used to calculate the opening RAV in the December 2019 LiMo submission, the ESO has been in dialogue with Ofgem about taking on additional roles e.g. Early Competition (CATO) and improved Offshore co-ordination. The July 2020 RRP submission has been updated for the latest view of costs and allowances and we would anticipate that Ofgem would recalculate the estimate of the closing RAV balance using the latest information supplied. This approach will result in an opening RAV which is consistent with Ofgem's proposal to use the July 2020 RRP submission to calculate the MOD value for inclusion in opening revenue allowances as the starting position for RIIO-2 (para 11.20 of the finance annex of draft determinations).

To aid transparency, the estimated RIIO-2 RAV opening balance and any adjustments should be included within Final Determinations and Ofgem should maintain a close out workbook detailing the audit trail of any RIIO-1 adjustments made.

RIIO-1 close-out

FQ27. Do you agree with the three categories of adjustments outlined below?

We agree that close-out adjustments need to be considered separately to ensure the accuracy of RIIO-2 opening balances and that outstanding RIIO-1 issues are captured in RIIO-2.

There are two methodologies that can be applied to categorising close out adjustments being:

1. Using an input based approach that is, categorisation dependant on the type of close-out adjustment
2. Using an output based approach that is, categorisation dependant on the type of adjustment required in RIIO-2 to accurately reflect the outcomes.

We believe that the three categories listed by Ofgem are a mixture of the two methodologies. The example in Para 11.18 of quoting MODt as a separate type of adjustment to both allowed revenue and RAV is actually an output of the input adjustment described in para 11.16.

We propose that adjustments are categorised dependant on the input based approach, that is, the type of close out being:

1. Adjustments which have a defined process of update via the variable values included in the RIIO-1 PCFM, for example: updates for totex allowances and spend in the last two years of RIIO-1
2. Adjustments which have a defined process of calculation based on the RIIO-1 licence, e.g. updates for incentives with a lag for recovery in revenue
3. Adjustments which will have to be adjusted via the PCFM but not via the variable value AIP processes, for example: an update to reflect any disposals from the RAV.

These adjustments will result in two outputs:

1. Adjustments required to the opening balances of the RIIO-2 PCFM
2. Adjustments to the allowed revenue in RIIO-2.

Whilst some of the types of close-out for the Transmission companies may not be relevant to the ESO RIIO-1 price control, there are a significant number which are and will require RIIO-2 licence conditions to enable calculation and inclusion as appropriate.

To aid transparency of the close-out adjustments for stakeholders, we propose that Ofgem maintain a close out workbook detailing and calculating the RIIO-1 adjustments, as per the precedent adopted for the TPR4 legacy adjustments.

Adjustments which have a defined process of update via the variable values included in the RIIO-1 PCFM

This is similar to the description in para 11.16. The RIIO-1 PCFM will be populated with the final variable values reflecting the outturns for 2019/20 and 2020/21 examples including cost of debt, totex and allowance values.

We agree that the final RIIO-1 closing RAV and depreciation pools will have to be carried forward to RIIO-2 to retain value neutrality between the 2 price controls.

For ESO the opening capital allowances will be reset to actual pool balances therefore the closing capital allowance pool balance will not be a relevant adjustment. However, we welcome discussion on the timing of the update of capital allowance pool balances.

This adjustment will also result in an output to the allowed revenue in RIIO-2 being the calculated MOD value. As MOD captures the adjustment to revenues for RIIO-1 earned revenues it should include the time value of money as per the RIIO-1 mechanism.

Adjustments which have a defined process of calculation based on the RIIO-1 licence

We agree with Ofgem that adjustments to revenue which fall outside the RIIO-1 PCFM form a separate category.

This category will require specific terms to calculate the revenues in the RIIO-2 licence. As these terms capture the revenues for RIIO-1 earned revenues they should include the time value of money as per the RIIO-1 mechanisms.

This category will apply to revenue terms which are lagged, examples of which are:

- Site Specific Adjustment (DIS) and Bi Lateral Diff Adjust (TS), which account for the difference between the amount collected from customers and paid to the TO's, which operate with a one-year lag
- True up between the allowance and the actual cost incurred for items such as Business rates (RB), License fees (LF), Inter Transmission SO Compensation (ITC), which operates on a two-year lag
- k term, the difference between the amount collected and the amount paid to TOs in respect of their Maximum Allowed Revenue, which operates with a two-year lag.
- TRU, SOTRU and OCTRU, true up of the inflation terms from the estimated inflation used to the actual inflation that applies for the year in question, which operates with a two-year lag
- EMR incentives, where the earned revenue is collected with a two-year lag.

These adjustments will result in an output to the allowed revenue only in RIIO-2. There will be no adjustment required to the opening balances in the PCFM.

Adjustments which will have to be adjusted via the PCFM but not via the variable value AIP process

For completeness, although this category is not expected to be relevant to the ESO, these adjustments will be those that do not have a standard approach of variable value inputs to the PCFM. An example of this category is adjustments for disposal proceeds, adjustments to the DARTs value.

This category could result in an output to both the opening RIIO-2 PCFM balances and the allowed revenues. The adjustment to the allowed revenue should include the TVM as applied in the PCFM.

FQ28. Do you agree with our approach in using estimated values for closeout adjustments until we are able to close out the RIIO-1 price controls?

The 2020/21 RIIO-1 Regulatory Reporting and Annual Iteration Processes deliver the inputs and mechanisms required to close out RIIO-1. Totex and performance for 2020/21 will not be known until RIIO-2 therefore we agree with using estimated values for Final Determination closeout adjustments.

We agree with the proposal to calculate the MODt value for 2019/20 expenditure by amending the existing RIIO-1 PCFM and reflecting the value in the opening revenue allowance for year 2021/22. This is consistent with our proposed approach to estimating the value of the opening RAV for RIIO-2 as described in FQ26.

As suggested in FQ27, to aid transparency of the close-out adjustments for all stakeholders we propose that Ofgem maintain a close out workbook detailing the audit trail of any RIIO-1 adjustments made.

Disposal of assets

FQ29. Do you agree that proceeds from the disposal of assets during RIIO-2 should be netted-off against totex from the year in which the proceeds occur?

We agree in principle with the proposal that net cash proceeds should be netted-off against totex in the year in which disposals occur. This will ensure that consumers receive the benefit of the proceeds as soon as possible.

For avoidance of doubt the value of any adjustment should be the net sales proceeds, which equates to the sales proceeds received less the cost of disposal. Costs of sale are the incremental costs of achieving the sale including transaction costs (for example, legal fees, commissions, professional adviser's fees) and costs of getting the assets into a saleable condition (such as, site clearance costs, systems separation costs).

FQ30. Do you agree that we should carry out a review where an asset is transferred to a holding company and then subsequently sold to a third party?

We do not agree with Ofgem's proposal to carry out a review where an asset is transferred to a company within the licensee group and then subsequently sold to a third party.

For intragroup transfers Ofgem has placed a licence obligation on the networks (ESO: Condition B9. Indebtedness) that all transfers to other group companies are made at arm's length. The licence obligation means consumers are already protected and any review should be at the point of transfer. In this case, disposals would require an independent valuation to demonstrate that best consideration is being obtained to protect the consumer. A review conducted many years later would be with the benefit of hindsight and may not be reflective of the circumstances at the time of the transaction.

Time value of money

FQ31. Do you agree with our proposal to apply one interest rate to revisions to PCFM inputs and charging errors, based on a short-term cost of debt?

We welcome Ofgem's proposal to simplify the time value of money (TVM) adjustments in the PCFM, but do not agree that it is fair to apply one interest rate for all prior year adjustments.

We consider that for the ESO there are two distinct types of timing that need to be addressed. The first category relates to adjustments to PCFM inputs, whether that be for additional allowances or prior year incentives. In these situations, the timing difference can be material for a business the size of the ESO. The revenue shortfall impacts on profits or could distort investment decisions and would be likely funded by the investor through dividend restrictions or equity injection or by the raising of additional debt. Such timing differences might therefore be expected to be funded using a mix of debt and equity. Therefore, for these types of timing differences it would continue to be appropriate to use WACC to compensate for time value of money.

The second type of timing difference relates to over or under recovery of cash where estimates are trued up based on ex ante restrictions or there is a requirement to collect or return monies to all industry parties through use of system charges. These are generally well established and known timing differences which would be funded through short term bank based debt, such as a working capital facility. We agree that it would be appropriate to use a short-term cost of debt to compensate for time value of money for these timing differences.

We note that Ofgem have not made clear their position on any transitional arrangements in the case implementing any changes to the TVM adjustments. We agree with CEPA's recommendation in their report that RIIO-1 closeout adjustments should be based on existing rates.

The current RIIO-1 licence does not address all cash flow timing issues within the building blocks of ESO's allowed revenue, and we consider it would be appropriate to remedy this in the RIIO-2 licence.

In the RIIO-1 licence as currently drafted, the ESO is not compensated for TVM for certain TNUoS revenues where ESO acts as an agent to collect money from or pay money to industry parties, with monies passed back through the following years TNUoS charges (e.g. site specific charges and TO final sums). We consider that it would be appropriate for these revenues, in addition to those already identified in the draft determinations, to be included in any TVM adjustment.

We also note that there remain cash timing differences outside of the licence, which attract different rates of interest. For example, the TVM adjustment for TNUoS revenues trued up through the demand reconciliation process and governed through the CUSC, attracts interest at bank base rates. It would seem beneficial to all parties that all short-term cash timing adjustments are settled at the same rate of interest no matter which code or licence sets out the rules.

FQ32. Do you agree with the margin-based approach, and the methodology used to calculate a margin of 110bps?

We agree with the margins-based approach, but only where timing differences are funded through short term debt. We also consider that the credit spread should be fixed at the beginning of the RIIO-2 period. Use of a rolling spread which captures the margin over the previous 3 years would imply that one third of a company's debt in respect of their associated facilities would be renewed each year. We consider that most licensees would fund such short-term timing cash flows through bank facilities with a reasonable assumption that these facilities would have around a 5 year tenor. Therefore, fixing the spread at the start of the price control period would most fairly reflect costs incurred.

FQ33. Do you have any reason why the marginal cost of capital for revisions to PCFM inputs and charging errors should remain distinct from each other, or why WACC may remain a more appropriate time value of money for a particular subset of prior year adjustments?

As noted in our response to FQ31 we see that there are two different types of prior year adjustment that create cash flow timing differences. Timing differences related to revisions to PCFM inputs could create significant cash flow impacts for a business the size of the ESO. There could be no assumption that these differences would easily be covered through short term debt facilities in a company that already has a working capital facility almost twice the size of its RAV. We consider that for these prior year adjustments retaining the WACC allowance for TVM would be appropriate.

We also agree with Ofgem's decision⁶⁰ to remove penal interest rates in the calculation of the K correction term for NGET, SHET and SPT since they are not directly responsible for setting TNUoS tariffs. We agree with Ofgem's view that the ESO can be adequately incentivised through its RIIO-2 incentive arrangements to provide accurate forecasts for the purposes of setting TNUoS tariffs.

Revenue forecasting

FQ34. Do you agree with our proposal to include forecasts for most PCFM variable values for the purposes of the AIP?

We support Ofgem's proposal to include forecasts for PCFM variable values for the purposes of the AIP. We agree that using forecasts will reduce the magnitude of true-ups. The ability to use forecasts for the variable values will also support the proposal for dynamic revenue recovery for ESO internal revenue.

We note that Ofgem is proposing to add a licence condition to require the licensee to use best endeavours in providing forecast values. As noted in ESOQ37 we would appreciate further clarity from Ofgem as to how any forecasts would need to be prepared. Our RRP forecast would normally be our best view of costs the ESO would incur to satisfy its deliverables under the RIIO-2 framework but would likely include forecasts for investments that are subject to further agreement with Ofgem. Only including forecasts that Ofgem have deemed within the efficient cost benchmark per final determinations would be below our outturn costs and contrary to the principle that ESO can recover its costs without undue delay.

We agree that incentive revenue, and other revenue components such as pass-through and DARTs should be included in revenues on a forecast basis, though we note that the uncertainty in the final outcome of a two-year incentive scheme will be challenging to forecast. Our response to the proposal to only determine the incentive financial reward or penalty every two years is set out in ESOQ5.

We disagree with basing the forecast for legacy adjustments on the LiMo Business Plan. As noted in FQ26 and FQ28 we anticipate that Ofgem would recalculate the estimate of the RIIO-2 opening balances and MOD value using the latest information supplied in the July 2020 RRP.

FQ35. Considering re-openers as set out in these draft determinations, do you agree with our proposal to exclude them from any forecasting? If not, please submit specific examples or analysis of the potential materiality of actual spend versus initial allowances.

In principle, although re-openers are not a specific aspect of the ESO RIIO-2 framework, we disagree with Ofgem's proposal to exclude re-openers from forecasting.

Under the RIIO-1 framework, the most significant revenue volatility was caused by the timing of the inclusion of allowances for both the 2018 security reopener and legal separation in 2019/20 revenues. In both cases, significant revenues relating to costs incurred in prior periods were recovered through a single year's charges. Inclusion of the allowances in earlier periods would have spread the revenue charged to consumers over prior periods avoiding the revenue peaks in the later years and avoiding significant profit volatility for the ESO.

⁶⁰ Decision on re-allocation of TNUoS Revenue Collection Risk
https://www.ofgem.gov.uk/system/files/docs/2020/07/tnuos_decision_letter_final_0.pdf

FQ36. Do you agree that additional reporting on executive pay/remuneration and dividend policies will help to improve the legitimacy and transparency of a company’s performance under the price control?

We are supportive of Ofgem’s view that transparency is important for building customers’ and stakeholders’ trust. We also believe that all reporting should be proportionate and provide succinct information to achieve the required outcome.

Executive pay/remuneration

Ofgem considers it appropriate that licensees report annually on executive roles in relation to the regulated business, and how executive pay reflects the company performance and adds value for customers and stakeholders, but they have not specified what they are seeking to achieve from the reporting.

The draft determination proposal requires disclosure of individual executive remuneration for each executive director with regard to fixed pay, variable pay and additional governance with accompanying narrative. This level of reporting extends way beyond the statutory reporting requirements for subsidiaries and large limited companies. The remuneration will be reported without context for the specialist type of organisation, roles and skill sets required. A requirement to publicly disclose personal information where licensees are not currently required to disclose that level of detail, for publication, is not one that Ofgem should impose.

We believe the type of disclosure proposed will divert from the real issue, which is to provide an understanding of how executives are rewarded and to demonstrate how it is reflective of the licensees’ performance.

This level of disclosure is likely to be an unhelpful distraction both within and external to the organisation and may have some unintended consequences. Selected individuals from the executive management team accept the role of ESO board director in addition to their executive position and are not separately remunerated for this role. The publication of salary details is likely to impact on the Board being able to attract future talent to step up to subsidiary Board roles. Also, the publication of such information could cause issues within the workforce and unions could potentially use this information to negatively influence negotiations.

Instead, we believe that increased and improved transparency of executive pay can be achieved by including a narrative explaining the strategic rationale of the reward structure and how it helps to shape the Directors behaviours and drive improved performance. This is in line with UK Corporate Governance Code (July 2018). For example, the narrative could include performance metrics with an explanation of how this benefits consumers. This approach, which is in line with Ofwat’s proposal, might better serve Ofgem’s reporting purposes.

Dividend policies

We are pleased Ofgem has recognised the commercially sensitive nature of publishing dividend forecasts and changed their position requiring networks to publish such forecasts. We also note that Ofgem recognise that dividend policies can change as the circumstances surrounding the operational characteristics of the licensees regulated businesses change which is particularly relevant to the ESO as an innovative, agile and asset light business. Ofgem has not demonstrated how introducing the burden of this additional disclosure will improve public confidence or trust as it may be prone to misinterpretation. We do not consider it necessary given the current licence conditions and disclosures already made in financial statements.

Base Revenue definition and ODI cap/collar

FQ37. Do you agree with the proposed definition of Base Revenue?

We note that Ofgem have not included a Base Revenue value for ESO in either Table 42 or Table 43. However, we believe that the application of Base Revenue as a defined term will be relevant to the ESO framework in a comparable manner to the other networks to calculate the threshold for the “deadband” of the Tax Trigger mechanism for Type B events and the tax allowance reconciliation.

Para 7.46 of the finance annex states 'The materiality threshold used for tax in RIIO-1 known as the "deadband" was set at the greater of 0.33 per cent of opening base revenue allowances and the effect of a one per cent change in the rate of corporation tax, which we consider may be more appropriate in this area. We therefore consider the definition of base revenue in this context.

Revenue elements to include in base revenue

We agree with the inclusion of the majority of the elements included in paragraph 11.101 being

- Fast pot expenditure.
- Non-controllable opex
- RAV depreciation
- Return
- Equity issuance cost
- Core DARTs, which are the sum of: Directly remunerated services (excluded services) net revenue and Pension deficit

We do not agree that 'pass through' as defined in the draft licence conditions should be included as this would double count non-controllable costs.

ESO external balancing costs, which are of a significant size and also classed as a 'pass-through' cost, should not be included in the calculation of base revenue.

We note that additional income has not been considered for the definition. For the avoidance of doubt additional income for ESO should be included in the definition of base revenue.

Price Base for Base Revenue

We agree that that Base Revenue is quoted in 18/19 prices.

Timing of calculation of base revenue

In principle, the materiality threshold should be applied to the Base Revenue as calculated through the Annual Iteration Process as this is a more accurate reflection of the tax allowance appropriate for the size of network investment. However, we recognise that this is a complex process which may result in a circularity of calculation. We therefore agree with Ofgem's proposal to link the threshold to the annual average of Base Revenues as at Final Determinations as a pragmatic approach.

FQ38. Do you agree with the proposal to fix the values used for ODI caps and collars at final determinations?

This proposal is not directly relevant for the ESO as the incentive cap and collars are not set with reference to the Final Determination base revenues.

Other responses and comments

6.12 Invite stakeholder views on including additional requirements for licensees to a) provide Ofgem with published rating reports, where possible, and b) provide Ofgem with a financial resilience report if their issuer credit rating falls to BBB/Baa2 (or equivalent) and is placed on negative watch (or is downgraded directly to a lower rating without being placed on negative watch)

National Grid Electricity System Operator is rated by Moody's only. Whilst Moody's publishes an annual report on the ESO, the rating is reliant on the parental support of National Grid and thus we feel less relevant for Ofgem's analysis of financial strength of the ESO. Published credit rating researched is not freely available and requires a licence when the research relates to a single issuer (in this case the ESO). We are therefore limited by our contracts in sharing research externally. This is caveated where there is a regulatory requirement to share research, however a formal request would need to be made by Ofgem at the time of the request.

11.50 To consolidate reporting and increase transparency, we propose to modify the AIP and PCFM from RIIO-1 such that that the total Allowed Revenue (instead of Base Revenue) is calculated in the PCFM

We agree with the overall principle of consolidating reporting to avoid duplication of reporting requirements providing it does not create unnecessary complexity. We are engaging with Ofgem via the Finance Licence Drafting Working Group on their proposals and will provide our views on the proposal and the modified PCFM

when the models are shared with us. Therefore, we have not provided any comments on the mechanics of the ESO licence model included in the Technical annex.

11.97 Where potential bad debts relating to the RIIO-1 period crystallise during the RIIO-2 price control, we propose to reflect an estimate of these amounts in our Final Determinations

Having had significant engagement with Ofgem for a bad debt recovery mechanism, we welcome Ofgem's proposal to include an estimate of the RIIO-1 bad debts in the Final Determinations. The estimate should include RIIO-1 bad debts that have already crystallised in the RIIO-1, with an appropriate time value of money adjustment, as well as potential bad debts relating to the RIIO-1 period which will crystallise in the RIIO-2 period.

Glossary

Term	Acronym	Description
Asset Beta		A measure of a company's risk that is independent of its financial structure.
Balancing services		Services procured by the ESO to balance demand and supply, and to ensure the security and quality of electricity supply across the transmission system. These services include reserve, frequency control and voltage control. Each service has different parameters that a provider must meet.
Balancing Services Use of System (charge)	BSUoS	This charge recovers the cost of day-to-day operation of the transmission system from generators and suppliers. BSUoS charges are calculated daily, depending on the balancing actions that the ESO takes. We also provide a monthly forecast of expected BSUoS charges.
Black Start		Black Start is the procedure we use to restore power in the event of a total or partial shutdown of the national electricity transmission system.
Capacity Market	CM	Introduced by the UK Government as part of the Electricity Market Reform Programme to ensure the future security of our electricity supply. This is achieved by providing a payment for reliable sources of capacity, alongside their electricity revenues, ensuring they deliver energy when needed.
Capex		Capital expenditures are funds used by a company to acquire, upgrade, maintain and create assets such as IS systems, property, or equipment.
Capital Asset Pricing Model	CAPM	A theoretical model that describes the relationship between risk and required return of financial securities. The basic idea behind the CAPM is that investors require a return for the rate of interest, and a return for the level of risk in their investment.
Capitalisation rate		The proportion of totex spend that is added to the regulatory asset value (RAV). This rate is normally informed by the expected split of totex between capital expenditure (capex) and operating expenditure (opex).
Competition Markets Authority	CMA	A non-ministerial government department in the United Kingdom, responsible for strengthening business competition and preventing and reducing anti-competitive activities.
Competitively Appointed Transmission Owner (regime)	CATO	In January 2018, Ofgem announced their intention to introduce competition into onshore electricity transmission build and this is the process that grants licences based on that competitive tendering.
Connection and Use of System Code	CUSC	The CUSC is the contractual framework for connection to, and use of, the National Electricity Transmission System (NETS).
Connections wider works		This refers to extending network planning to consider schemes determined wider works in customer connection offers
Consumer		The end-user of the products and services we provide, including domestic households, with whom we have no direct relationships.
Consumer Price Index	CPI	A measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food, and medical care. It is calculated by taking price changes for each item in the predetermined basket of goods and averaging them. Changes in the CPI are used to assess price changes associated with the cost of living ; the

Term	Acronym	Description
		CPI is one of the most frequently used statistics for identifying periods of inflation or deflation.
Consumer Price Index Household	CPIH	A measure of the annual rate of UK consumer price inflation that includes owner occupiers' housing costs (OOH), associated with owning, maintaining and living in one's own home. OOH does not include costs such as utility bills, minor repairs and maintenance, which are already included in the CPI.
(Electricity National) Control Centre	ENCC	The facilities from which the electricity system is managed in real time from
Control Centre Architecture and Systems		The suite of IT tools used by the control room to monitor and balance the electricity network.
Cost-benefit analysis	CBA	This is an options appraisal process, where the cost of a proposed process or action is calculated, then subtracted from the benefits associated with taking that action.
Cost of debt		An estimate of the return a business provides to its debt holders. Cost of debt is used in weighted average cost of capital (WACC) calculations in order to provide a return on capital invested in the regulatory asset value (RAV).
Cost of equity		An estimate of the return that equity investors expect for the risks they take when investing in a business. Cost of equity is used in WACC calculations in order to provide a return on capital invested in the regulatory asset value (RAV).
Credit rating		An evaluation of a potential borrower's ability to repay debt. Credit ratings are calculated from financial history and current assets and liabilities. There are three major credit rating agencies (Standard & Poor's, Fitch and Moody's) who use broadly similar credit rating scales, with D being the lowest rating (Moody's is C) (highest risk) and AAA being the highest rating (negligible risk).
Credit spread		The difference in yield between two bonds of similar maturity but different credit quality.
Critical national infrastructure	CNI	Assets that are considered vitally important to daily life and the economy. This includes infrastructure associated with the generation and transportation of electricity.
Customer		Organisations or individuals who pay us for the products and services we provide.
Debt beta		Measures the sensitivity of a bond's return relative to the market return.
Department for Business, Energy and Industrial Strategy	BEIS	A UK Government department with responsibilities for business, industrial strategy, science, innovation, energy, and climate change.
Design authority		The ESO design authority will give stakeholders the opportunity to inform the direction of the ESO, and provide input into the design of services and capabilities. It will also provide transparency of the decision-making process and prioritisation of investments. At a more detailed level, it will allow us to consult and engage on the experience of interacting with the ESO and invite input into key design, development and testing phases of

Term	Acronym	Description
		our solutions development. It will also provide transparency of the decision-making logic behind our systems.
Digitalisation		The application of digital technology and data to improve processes.
Digitisation		Process of converting information from a physical format into a digital one.
Dispatch		The operation of generation facilities to produce energy at the lowest cost to reliably serve consumers, recognising any operational limits of generation and transmission facilities.
Distributed generation	DG	Any generation that is connected directly to the local distribution network, as opposed to the high voltage transmission network.
Distribution Network Operator	DNO	Owner of networks for the distribution of electricity.
Distribution System Operation	DSO	DSO is the effective execution of a set of functions and services that need to happen to run an electricity distribution network.
Electricity Market Reform	EMR	A government policy to incentivise investment in secure, low-carbon electricity, improve the security of Great Britain's electricity supply, and improve affordability for consumers.
(Electricity) system		All the suppliers, services and infrastructure which are coordinated to maintain the safe and reliable supply of electricity to consumers by balancing electricity generation with demand. This includes generators, balancing services providers, interconnectors, transmission and distribution networks and the operators (DNOs, TOs and OFTOs).
Electricity System Operator	ESO	An entity entrusted with transporting electric energy on a regional or national level, using fixed infrastructure. The ESO may not necessarily own the assets concerned. For example, National Grid ESO operates the electricity transmission system in Scotland, which is owned by Scottish Hydro Electricity Transmission and Scottish Power Transmission.
Elexon		Administrator for the Balancing and Settlement Code (BSC).
Embedded customers		Users connected to the distribution networks.
Energy Codes Review		A joint comprehensive review of the energy codes, by BEIS and Ofgem, to help govern the energy system. The aim of the review is to consider options for improving the existing arrangements, including scope for fundamental reform.
Energy Data Taskforce	EDTF	Industry group established by the government and Ofgem to investigate how the use of data could be transformed across the energy system.
Energy Networks Association	ENA	Trade association for gas and electricity transmission and distribution licence holders, including the ESO.
Equity beta		Represents the level of systematic risk within an organisation for which investors expect a return under the Capital Asset Pricing Model.
ESO Board		Set up in advance of the ESO beginning to operate as a legally separate business (within the National Grid Group) from 1 April 2019, this new Board has a crucial role in overseeing the ESO as it evolves and engages in the transformation of the energy market.

Term	Acronym	Description
ESO RIIO-2 Stakeholder Group	ERSG	An independently chaired group set up to scrutinise and challenge our business plan, making sure it reflects our stakeholders' priorities, as well as driving value for consumers. Its members are drawn from a cross-section of customers, service providers and public interest groups.
European Network for Transmission System Operators	ENTSO-E	Organisation representing 43 electricity transmission system operators from 36 European companies.
Ex ante		Notional or expected (literally “before the event”).
Ex post		Actual or delivered (literally “after the event”).
Financeability		Ability for something to be financed or receive financing.
<i>Forward Plan</i>		Published each financial year, our <i>Forward Plan</i> describes what the ESO is planning to do to deliver benefits for our customers and stakeholders. It includes a set of criteria for our performance to be measured against.
Full time equivalent	FTE	Full time equivalent staff in employment.
<i>Future Energy Scenarios</i>	<i>FES</i>	The <i>FES</i> is a range of credible pathways for the future of energy out to 2050. They form the starting point for our transmission network and investment planning and are used to identify future operability challenges and potential solutions.
Gearing		A ratio measuring the extent to which a company is financed through borrowing. Ofgem defines this as the percentage of net debt relative to the regulatory asset value (RAV).
Great Britain	GB	A geographical, social and economic grouping of countries that contains England, Scotland and Wales.
Grid Code		Specifies the technical requirements for connection to, and use of, the national electricity transmission system.
Incentive scheme		An evaluative framework providing financial rewards or penalties based on the ESO's performance.
(System) inertia		The quality of kinetic energy stored in the rotating parts of the machines that are coupled to the power system. This relatively small store of usable energy inherently helps to regulate the balance between generation and demand.
Indexation		The adjustment of an economic variable so that the variable rises or falls in accordance with the rate of inflation.
Integrated Energy Management System	iEMS	The core control system which enables the real-time operation and monitoring of the transmission system. It is categorised as Critical National Infrastructure.
Key performance indicator	KPI	A measure of performance.
	LOTI	Large onshore transmission investment
Market platform		The Market Platform will provide a portal to participate in all our ESO balancing service markets, the Capacity Market and the Contracts for Difference (CfD) auctions. It will allow market participants to perform a range of tasks online including registration, contracting, participation in

Term	Acronym	Description
		procurement events, access performance reporting and portfolio management.
Megawatt	MW	A unit of power. 1 MW = 1,000,000 watts.
Megawatt hour	MWh	A unit of power usage equal to 1 megawatt of electricity used continuously for one <i>hour</i> .
Monthly Balancing Services Summary	MBSS	Monthly report that shows the cost associated with balancing the electricity system.
	MSIP	Medium sized investment projects
National Electricity Transmission System	NETS	The network and assets infrastructure that supports the electricity transmission system in England and Wales. This consists of approximately 7,200 kilometres (4,474 miles) of overhead line, 1,500 kilometres (932 miles) of underground cable and 342 substations.
National Grid Electricity Transmission	NGET	Owens the electricity transmission network in England and Wales, helping to connect large or small energy projects.
Net zero		An economy where any greenhouse gases emitted are offset by the removal of an equivalent amount. It is usually used in the context of the UK's target to be net zero by 2050, as per the 2008 Climate Change Act (as amended in 2019).
Networks		The physical infrastructure owned by the TOs and DNOs which connects electricity generators to end consumers, including substations, transformers, transmission and distribution power lines.
Network Innovation Allowance	NIA	This provides an annual allowance to fund innovation projects that create value for our customers.
Network Innovation Competition	NIC	An annual competition that funds flagship innovative projects to deliver financial and environmental benefits for gas customers.
<i>Network Options Assessment</i>	NOA	An ESO-run process that makes recommendations to TOs as to which projected to proceed with to meet future network requirements as defined in the <i>ETYS</i> .
Office of Gas and Electricity Markets	Ofgem	The UK's independent National Regulatory Authority, a non-ministerial government department. Their principal objective is to protect the interests of existing and future electricity and gas consumers.
Off Shore Transmission Owner	OFTO	A transmission owner who assumes responsibility for offshore transmission assets.
Open data		Refers to the adoption of the principle that we will consider all of the data that we hold shareable, as long as it is not subject to consumer privacy, security, commercial sensitivity or negative consumer impact restrictions.
Opex		Operational expenditure which is an ongoing cost for running a product, business, or system.
Pathfinder projects		Pilot projects to develop the regional options assessment process for voltage requirements focusing only on high voltage system issues.
Regional Development Programmes	RDPs	A programme set up to provide detailed analysis of areas of the network with large amounts of distributed generation and known network issues in accommodating this. RDPs adopt a whole system approach to push

Term	Acronym	Description
		the boundaries of current thinking and optimise operations and investment across distribution and transmission networks.
Regulatory asset value	RAV	The value ascribed by Ofgem to the capital employed in the licensee's regulated business (the 'regulated asset base'). The RAV is calculated by summing an estimate of the initial market value of each licensee's regulated asset base at privatisation and all subsequent allowed additions to it at historical cost, and deducting annual depreciation amounts calculated in accordance with established regulatory methods. These vary between classes of licensee. A deduction is also made in certain cases to reflect the value realised from the disposal of assets comprised in the regulatory asset base. The RAV is indexed to RPI in order to allow for the effects of inflation on the licensee's capital stock.
Renewable generation		Renewable generation creates electricity from natural resources that are quickly replaced. For example: wind, solar or biomass generation.
Replacement Reserve	RR	Replacement Reserve is a harmonised service across participating European TSOs for the provision of both an increase and decrease of active power.
Retail Price Index	RPI	A measure of inflation published monthly by the Office for National Statistics. It measures the change in the cost of a representative sample of retail goods and services. The Office for National Statistics no longer classifies it as a 'national statistic', emphasising the CPI instead.
Revenue = incentives + innovation + outputs.	RIIO	Ofgem's regulatory framework that sets price controls to determine the amount network companies can earn from the services they provide.
	RIIO-2	The next regulatory price control period, which starts in April 2021.
	RIIO-1	The current regulatory price control period, which runs from 2013 to 2021.
Risk-free rate		The rate of return that an investor would expect to earn on a "riskless" asset. Typically, government-issued securities are considered the best available indicator of the risk-free rate due to the extremely low likelihood of the government defaulting on its obligations.
Security and Quality of Supply Standard	SQSS	A set of standards used in the planning and operation of GB's national electricity transmission system, including both onshore and offshore.
Sterling overnight index average	SONIA	This is based on actual transactions and reflects the average of the interest rates that banks pay to borrow sterling overnight from other financial institutions. SONIA is replacing LIBOR as the primary interest benchmark rate in sterling markets.
Stakeholder		All people, groups or organisations that either have an influence over our licence to operate or have an interest or concern in our activities.
System operability		The ability to maintain system stability and all the asset ratings and operational parameters within pre-defined limits safely, economically and sustainably.
System Operator	SO	An entity entrusted with transporting energy in the form of natural gas or electricity on a regional or national level, using fixed infrastructure. The SO may not necessarily own the assets concerned. For example, National Grid ESO operates the electricity transmission system in Scotland, which is owned by Scottish Hydro Electricity Transmission and Scottish Power.

Term	Acronym	Description
(Project) Trans European Replacement Reserve Exchange	TERRE	A European project to implement a new Replacement Reserve product.
Total expenditure	Totex	Total cost of expenditure relating to licensees regulated activities.
Total market return		An estimate of the return investors expect for taking the market-average level of risk.
Transformational activities		These are activities that go beyond business as usual.
Transmission Network Use of System Charges	TNUoS	Charges made to recover the cost of installing and maintaining the electricity transmission network. TNUoS is collected by the ESO on behalf of transmission owners.
Transmission Owner	TO	A collective term used to describe the three transmission asset owners within Great Britain, namely National Grid Electricity Transmission, Scottish Hydro Electric Transmission Limited and Scottish Power Transmission Limited.
UK Climate Change Act		Launched in 2008, this act outlines the Government targets to reduce carbon emissions by the year 2050.
Unified cost allocation methodology	UCAM	The UCAM is a process used to govern the allocation of shared costs to different business areas. The principles of the UCAM process are a simple, consistent and transparent method to allocate costs by maximising direct attribution of costs where possible and then using agreed drivers for costs not directly attributable (for example, headcount of the relevant companies). More details can be found in Annex 8 – Shared services.
United Kingdom of Great Britain and Northern Ireland	UK	A geographical, social and economic grouping of countries that contains England, Scotland, Wales and Northern Ireland.
Weighted average cost of capital	WACC	The weighted average of the cost of equity and the cost of debt, where the weighting is provided by the gearing ratio. As part of the price control process, Ofgem sets an allowance for the expected WACC and applies it to the regulatory asset value (RAV).
Working capital facility	WCF	A pre-approved loan to finance the short-term finance needs of the business.
Zero carbon		Achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal or simply eliminating carbon emissions altogether. In the context of zero carbon operation, it refers to the electricity system operating without any carbon-based generation.