
Jonathan Brearley and Simon Wilde
Ofgem
10 South Colonnade
Canary Wharf
London
E14 4PU
RIIO2@ofgem.gov.uk

Fintan Slye
Director, UK System Operator

Fintan.Slye@nationalgrid.com
Direct tel: +44 (0)118 936 3116

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RIIO-2 methodology for the Electricity System Operator – decision and further consultation

Dear Jonathan and Simon,

We share Ofgem's objective to enable an ambitious, proactive, flexible, collaborative and forward-looking Electricity System Operator (ESO). This is reflected in our business plan, which proposes a set of ambitious outputs, endorsed by stakeholders, that will deliver significant benefits to consumers and facilitate the transition to net zero emissions by 2050. It is essential that our regulatory framework supports and encourages the delivery of these outputs through ensuring a sustainable, financeable and appropriately incentivised ESO as a standalone business.

In order to do this, the ESO's regulatory framework must recognise the nature of the services we provide and the risks we hold, and provide a fair return for these to enable a sustainable future for the business. It should support behaviours that result in the proactive, ambitious ESO that stakeholders want, giving us the confidence to innovate in areas that deliver consumer value. This includes an appropriate incentive scheme designed to promote investment in the areas that will provide most benefit for consumers, with a clear link between performance and incentive outcomes.

The intention of the recent legal separation of the ESO from National Grid Electricity Transmission (NGET) was to establish an ESO with a governance structure that mitigates potential or perceived conflicts of interest and can adapt further to the changing energy system. The framework should reflect this by not relying on explicit or implicit support from National Grid Group without fair remuneration. This new price control is critical to the success of legal separation and ensuring that the ESO is able to demonstrate that we are a financeable, credit-worthy and sustainable business.

We are different to the network-owning companies that are also regulated under the RIIO framework: we are a relatively asset-light business delivering a wide variety of services, exposed to risks that are relatively large compared to the size of our business. We welcome the acknowledgment of this difference in Ofgem's consultation document.

Our consistent view, shared by the majority of stakeholders, is that a RAV*WACC model alone is not a sufficient or appropriate remuneration model for the ESO, given the differences we highlight above. We are therefore encouraged by Ofgem's continued consideration of additional remuneration to ensure a fair return for the services we provide and the risks we hold on behalf of industry and consumers.

Below, we have summarised our key messages in response to the consultation questions set out in Ofgem's ESO Methodology Decision Document (ESOMDD).

Financial methodology consultation

Cost of debt

We believe a bespoke cost of debt mechanism is required in order to achieve Ofgem's principles relating to the cost of debt, given the different characteristics of the ESO compared to the network companies.

We note that Ofgem's methodology for the network companies looks to provide funding with reference to A and BBB rated UK non-financial corporates. We believe that it would be more relevant in the case of the ESO to consider only BBB rated costs. Our actual rating from Moody's sits in the BBB range and, arguably more importantly, in assigning our rating Moody's assumed a "high likelihood that National Grid would provide

financial assistance should it become necessary to maintain NG ESO’s credit quality”,¹ strongly indicating that a rating on a standalone basis would be lower.

In line with the principles of legal separation, we believe it is very important that our price control framework supports this by ensuring that funding and financing arrangements do not structurally assume reliance on National Grid Group – or where this exists, adjustments are made to reflect the cost of funding the ESO without such support. We suggest that an adjustment is made to recognise the additional costs that the notional company would be exposed to on a standalone basis, in line with the principle we set out at the start of this letter. We have estimated the value of this to be 25bps².

Allowance for equity finance

On the ESO-specific CAPM parameters, these should reflect the differences of the ESO relative to the network companies.

We consider that Ofgem’s working assumption of 0.60, informed by the CMA’s³ recent determination of SONI’s⁴ price control appeal, represents an appropriate assumption for calibrating the allowed cost of equity for the ESO. SONI is a relevant comparator to the ESO risk profile, undertaking many similar roles, e.g. system operation, system planning and industry revenue management.

We disagree that the CAPM allowed return should be adjusted to reflect the expected contribution of financial incentives in the price control design. Any expected out (or under) performance should result in actual returns being higher (or lower) than the baseline allowed returns on equity capital and should reflect the consumer value that the ESO has delivered, and been rewarded for, through the incentive scheme.

The ESO’s only source of incremental performance under the proposed RIIO-2 framework is through the ex post, evaluative incentive scheme, which was introduced in 2018. Our experience of this incentive scheme suggests that no positive performance can be assumed: our outcome for 2018/19 was only £860,000 (less than 3% of the available upside).

Overall, our views on cost of equity for the ESO imply that the alternative assumptions in Figure 1 are more appropriate. We explain our position in more detail in our response to the equity finance questions later in this document.

Figure 1

	Ofgem working assumptions (CPIH)	ESO alternative assumptions (CPIH)
RFR	-0.75%	-0.75% ⁵
TMR	6.50%	6.50% ⁶
Asset beta	0.6	0.6-0.65
Debt beta	0.125	0.05
Gearing	55%	50-55%
Equity beta	1.18	1.15-1.38
Cost of equity	7.81%	7.59-9.28%

Additional remuneration

Additional remuneration is necessary to cover both the services the ESO provides and the risks we are exposed to that are not correlated to our RAV or mitigated through the RAV*WACC framework.

¹ Moody’s initial rating of NGESO (2019), https://www.moodys.com/research/Moodys-assigns-Baa1-rating-to-National-Grid-Electricity-System-Operator--PR_396553

² Please refer to our confidential appendix for more information

³ Competition and Markets Authority

⁴ System Operator Northern Ireland

⁵ Based on Ofgem working assumption

⁶ Based on Ofgem working assumption

Many of the services we provide do not require significant investment in fixed assets, so under this funding model such activities do not receive a return. No commercial investor would invest in a business where the best case scenario is just to get their money back. Many of our risks do not scale with the RAV, including (but not limited to) the ex post cost disallowance mechanism, political and regulatory changes, legal challenges and reputational impacts. These are not fully remunerated under a RAV*WACC model.

It is challenging to quantify this combined risk, but it is not zero, which is in line with the CMA / SONI determination. With support from consultants, we have undertaken initial analysis to firstly assess the ESO's capital requirements across our three distinct roles (operating and balancing the system, market and industry services, and industry revenue management) and consider the return required on that capital, and then to cross-check this against relevant industry benchmarks.

Our initial analysis shows that the gap in required revenue for the ESO is in the region of £32m-£39m.

Financeability

We acknowledge that the financeability assessment for the ESO will be an area of some judgement, given that credit rating agencies apply judgement in their assessment. In the case of the ESO, the rating agency determined that an appropriate rating was three notches below that indicated by its initial assessment, to reflect the risks and volatility of ESO activities. This also indicates that metrics in RIIO-2 have to be measured relative to the recent rating at the point of legal separation: if they are weaker, they may not support an investment grade credit rating. Furthermore, it is clear that there is a greater need for consideration of equity-based metrics in assessing the ESO's financeability, especially given the need for additional equity injection during the RIIO-2 period.

Our modelling results indicate that RAV*WACC funding on its own does not ensure a financeable ESO. This is exhibited in the notional company analysis as, although some credit rating measures may be acceptable, the underlying profitability of the business under the current proposals does not provide an investable equity proposition.

The price control must be financeable for a standalone ESO, without dependency on National Grid Group – a key element in this will be ensuring that all capital, including contingent capital, is appropriately remunerated.

Incentives consultation

We note Ofgem's decision to continue with an ex post evaluative incentive scheme for the ESO, and to continue to consider the symmetry of the scheme.

We agree with the need to apply lessons learned from the first year of the current scheme. The experience of the first year highlights the challenge in making a meaningful link between performance and reward; an evaluative scheme is ultimately subjective and therefore does not provide predictability. Having no clear link between performance and reward, and no clear alignment on the baseline against which the ESO is measured, is likely to drive cautious behaviour from the ESO and mitigate against the potential to realise incremental consumer value.

We welcome Ofgem's stated intention in the consultation to provide more clarity, and we are keen to continue to work with Ofgem and stakeholders to improve the scheme so that incentives are strong and effective, in line with stakeholders' desires. It is essential that Ofgem provides clarity on what could fall under the incentives scheme, the level of performance the ESO is expected to deliver, and how performance translates into either a penalty or a reward. We agree that tailoring the approach for short, medium and long-term incentive areas can allow for greater reliance on metrics where appropriate.

We would like to understand further from Ofgem how it sees efficiency being considered through the incentives scheme in the context of our wider regulatory framework, alongside the pass-through approach and ex post cost disallowance that will apply to the ESO. We agree that efficiency is an important area of focus in any regulatory framework, and want to ensure that it drives the right behaviours. It is important that the scheme does not undermine Ofgem, stakeholders' and our desired objective to encourage efficient spending that benefits consumers and avoids risk aversion.

We note that the size and detailed structure of our incentive scheme will not be decided until Draft Determinations in Q2 next year. This limits our ability to assess the sustainability and financeability of the overall ESO RIIO-2 framework against base and downside scenarios.

Process timing

We have noted our concerns around the very tight timeframes associated with this consultation and the RIIO-2 business planning process for the ESO in recent letters to Ofgem and the RIIO-2 Challenge Group. Our key concern relates to the fact that consultation on core aspects of the ESO's financing methodology and parameters is still on-going, and we only received the financial model for the ESO's business plan on 20 September.⁷ As a result, it is challenging to develop a robust and financeable business plan.

We will continue to work closely with Ofgem and stakeholders to explore how we can best deal with this uncertainty in the context of developing and delivering our business plan by 9 December.

⁷ We understand that all the other companies in the RIIO-2 process have had their relevant models since 29 March 2019

Financial methodology questions

Cost of debt

Q1 Do you agree that full indexation for the Cost of Debt allowance is appropriate for the ESO?

We agree that it is appropriate to apply Ofgem's principles⁸ when looking to set out an appropriate cost of debt methodology for the ESO. These principles are that:

- Consumers should pay no more than an efficient cost of debt.
- The cost of debt allowance should be a fair and reasonable estimate of the actual cost of debt likely to be incurred by a notionally geared, efficient company.
- Companies should be incentivised to obtain lowest cost financing without incurring undue risk.
- The calculation of the allowance should be simple and transparent, while providing adequate protection for consumers.

We understand that Ofgem has retained a full indexation methodology for the network companies, and we see the benefit of this in delivering the principles as set out above. We are open to exploring with Ofgem how this is best achieved for the unique characteristics of the ESO. We set out more in our response to question 3.

Q2 Do you agree with the proposal for a bespoke debt indexation mechanism for the ESO?

The ESO is structurally and operationally different to the other entities under RIIO-2. We invest in the tools and systems we need to support the services we provide on behalf of industry. ESO fixed assets are generally related to IT systems rather than tangible construction, and have useful economic lives that typically range from 5-10 years. We have set out in our July draft business plan how we propose to invest in our systems and tools in order to release considerable benefits for consumers and support the journey to be able to operate a carbon free system by 2025.

Equally, the ESO is an asset-light business with a relatively small RAV. The frequent issuances of term debt implicitly assumed in the standard index approach are not practical for the ESO.

We believe a bespoke cost of debt mechanism is required in order to achieve Ofgem's principles above relating to the cost of debt, given the different characteristics of the ESO compared to the network companies.

Q3 Do you have a view on whether the options set out in 3.10 for a bespoke debt indexation mechanism are appropriate for the ESO?

We agree with Ofgem's proposal to set a bespoke cost of debt mechanism for the ESO in light of our unique characteristics.

Ofgem has outlined five potential options for a bespoke cost of debt index. These options include:

- using a shorter maturity benchmark compared to the cost of debt index proposed for the other network licensees
- calculating a shorter trailing average period
- using the credit spread of the index and adding that to an interbank borrowing rate
- weighting the index according to NGESO's debt issuance profile
- providing a small-company-premium allowance

This response considers each of the options set out in 3.10 of the consultation document. The following comments are based initially on the use of bond debt. We then go on to explore an approach that sets a cost of debt allowance referring to suitable bank debt-based benchmarks.

Using a shorter maturity benchmark

⁸ Ofgem (2019), RIIO-2 framework consultation, www.ofgem.gov.uk/publications-and-updated/riio-2-framework-consultation

Our strategy is to match the tenor of debt to the tenor of the assets (5-10 years), which we believe is an efficient and appropriate treasury policy. We therefore agree that using a shorter maturity benchmark would be more appropriate than the 10 year+ indices used for the network companies.

Rating of debt

We note that Ofgem's methodology for the network companies looks to provide funding with reference to A and BBB rated UK non-financial corporates. We believe that it would be more relevant in the case of the ESO to consider only BBB rated costs.

Our actual rating from Moody's sits in this range at Baa1, and arguably more importantly, in assigning our rating Moody's has assumed a "high likelihood that National Grid would provide financial assistance should it become necessary to maintain NG ESO's credit quality",⁹ strongly indicating that a rating on a standalone basis would be lower.

This is a key principle in relation to the ESO price control. Through the recent legal separation of the ESO from NGET, Ofgem and BEIS intended to create an ESO that is operationally independent from the rest of National Grid. We believe it is very important that our price control framework supports this principle by ensuring that funding and financing arrangements do not structurally assume reliance on National Grid Group – or where this exists, adjustments are made to reflect the cost of funding the ESO without such support. We suggest that an adjustment is made to recognise the additional costs that the notional company would be exposed to on a standalone basis, in line with the principle we set out at the start of our response. We have estimated the value of this to be 25bps¹⁰.

Calculating a shorter trailing average period

We agree that a long trailing average period is not appropriate, as the ESO does not have embedded fixed rate debt. Some length of short trailing average to set the cost of debt allowance is important to ensure that the ESO is not exposed to the risk that spot rates are low on the day the first year's allowance is set, or that the allowance is set inappropriately high. An extending trailing average starting on 1 April 2019 would initially cover a one-and-a-half-year period, assuming that the first year's allowance is set in November 2020. We consider this an appropriate opening position for the setting of the allowance, should it be looking to approximate bond costs.

iBoxx indices

Should the ESO look to service our debt requirements via bond issues, consideration needs to be given to the most appropriate index to reference. We understand that the network companies' cost of debt methodology makes reference to the 10+ year iBoxx for UK non-financial corporates. If we follow a similar methodology adapted to the specific requirements of the ESO as set out above, this would result in a core allowance based on the combination of the 5-7 and 7-10 year iBoxx for BBB rated UK non-financial corporates.

It is important to consider that any indices used are made up of a sufficiently large number of bonds to ensure the data is robust and not unduly influenced by individual bonds or companies. As a reference, around 150+ bonds with a notional value of >£70bn make up the combined A and BBB 10+ indices. As there is no 5-10 index, combining the BBB 5-7 and BBB 7-10 indices matches the life of ESO assets and creates a larger, more diversified index. As of June, these two indices combined consisted of over 90 bonds, with a notional value of >£40bn. Of note, the A 5-7 and A 7-10 indices were considerably smaller and were made up of just 10 and 24 bonds respectively. These indices are more likely to be influenced by changes in individual company bond yields, leading to potential volatility. This further supports the use of BBB only.

Transaction costs

When considering the cost of term debt, consideration also needs to be given to the burden of transaction costs. The type of fees incurred differs between bank and bond debt. We classify transaction costs as including: bond underwriting fees, bank upfront or advisory fees, arrangement fees, rating agency fees, legal fees, auditor fees and bond listing fees.

We note that Ofgem assumed transactions costs, including liquidity and cost of carry, to be c.20bps in RIIO-1.

⁹ Moody's initial rating, https://www.moody.com/research/Moodys-assigns-Baa1-rating-to-National-Grid-Electricity-System-Operator--PR_396553

¹⁰ Please refer to our confidential annex for more information

We highlight our expectation that transaction costs for the ESO would be higher than those seen in the network companies, due to the quantum of debt being obtained and the scale of the ESO.

Weighting the index to when debt is raised

The ESO currently has £120m of term debt, with incremental requirements of c.£16m¹¹ p.a. on average expected over the course of RII0-2. Should the ESO raise this debt in a fixed tenor format, our cost of debt would be heavily weighted towards the rate achieved in the initial £120m of borrowing. Therefore, we agree that weighting the index would be appropriate should the ESO borrow on a fixed rate basis.

Providing a small company premium allowance

We agree that a bespoke arrangement for the ESO should include consideration of a small company premium allowance. For completeness, we note that while Ofgem has raised this question in the context of the debt allowance, it is also relevant to think about whether the smaller scale of the ESO's business implies a higher cost of equity. Our response to this question therefore considers both debt and equity issues. Equally, we believe there is merit in introducing a first of a kind (FOAK) premium.

Consistent with the policy objectives of legal separation, the price control for the ESO should be set in relation to the notional ESO company, assuming no reliance on National Grid Group. In this context, there can be little doubt that the ESO is small relative to the network companies regulated by Ofgem. Taking RAV as an example measure, NGET's RAV was more than 70 times larger than the ESO's RAV at the end of March 2019. The Scottish TOs are usually considered to be relatively small, yet they also each have a RAV that is several times the size of the ESO's.

Academic evidence suggests that the required returns for smaller companies are higher than for bigger companies. For example, the Fama–French three-factor model¹² has identified two factors, in addition to the overall market factor used in CAPM, that provide an explanation for stock returns. One is a size factor that captures the additional return associated with companies that have small market capitalisation. The results of the three-factor model suggest that the risk premium associated with the size factor is large, and that the model provides a good explanation of stock returns.¹³

A small company premium is justified on three grounds:

- lower liquidity and restricted access to institutional capital markets
- higher transaction costs
- regulatory precedent

Firstly, it is widely accepted that small companies with modest debt requirements find it more difficult to access the institutional capital markets. Although private institutional markets may be available, public bond markets are more difficult for a small company. We believe this is due to a higher fixed cost burden on institutional investors given the small lending opportunity available, as well as investors requiring a minimum size of bond: usually £250m in the Sterling market, for liquidity reasons.

Smaller companies may have less liquid debt and equity securities. Reduced liquidity implies that less information is captured in the market price, which may reduce performance measurement and pricing accuracy.¹⁴ In addition, smaller companies may have low analyst coverage, thus increasing informational asymmetry between the company and investors or potential investors. Such concerns may increase the rate of return required by investors.¹⁵ Less liquid companies are also likely to be associated with higher transaction costs for investors (e.g. a wider bid-ask spread for traded equity). This may further discourage trading activity and decrease the liquidity for the securities.

Secondly, smaller companies tend to incur higher fees (bank fees, loan margins, commitment fees) and transactions costs relating to borrowing (including legal fees, rating agency fees and audit fees) due to

¹¹ Average over five years in 2018/19 prices assuming Ofgem working assumptions with no additional revenue

¹² <https://www.investopedia.com/terms/f/famaandfrenchthreefactormodel.asp>

¹³ Fama, E. and French, K. (1993), 'Common risk factors in the returns on stock and bonds', *Journal of Financial Economics*, 33, pp. 3–56

¹⁴ Holmström, B. and Tirole, J., (1993), 'Market Liquidity and Performance Monitoring,' *The Journal of Political Economy*, vol. 101(4), pp. 678–709

¹⁵ Bhushan, R., (1989), 'Firm Characteristics and Analyst Following', *Journal of Accounting and Economics*, vol. 11(2–3), pp. 255–274

diseconomies of scale. Therefore, a small company is more likely to incur higher charges and have more onerous terms, including covenants in their debt facilities.

Thirdly, company-specific adjustments, including adjustments for size and transaction cost allowances, are recognised directly or indirectly in a number of regulatory precedents, both on the cost of debt and cost of equity. For example:

- **Ofwat PR19 (2019).** Ofwat's minded-to position is to allow a 10bp uplift to the cost of debt for the liquidity and issuance costs for all water undertakings. In addition, Ofwat has assessed that there is a net customer benefit from providing a company-specific adjustment in the form of a higher cost of debt allowance for Portsmouth Water.¹⁶
- **Utility Regulator NI GD17 (2017).** Utility Regulator provided a 40bp uplift to the cost of debt, reflecting possible illiquidity of the bonds issued by firmus energy and Phoenix Natural Gas (PNGL), compared to more actively traded GB utility debt. In addition, the regulator provided an allowance for debt-related transaction costs in line with the debt raising activities of the two companies. The uplift was determined at 40bp for PNGL and 60bp for firmus energy.¹⁷
- **CMA Bristol Water (2015).** In 2010 and 2015, the CMA allowed an uplift in beta estimation for Bristol Water as a water-only company relative to larger water undertakings, due to differences in operational leverage. In its 2015 determination, the CMA proportionately increased the asset beta for Bristol Water by around 13% relative to larger water companies, by comparing the relative difference in the proportion of revenue accounted for by depreciation and return.¹⁸

We believe that such considerations are relevant for the ESO in calibrating any adjustments for our scale within the cost of capital, including our allowed cost of debt.

In addition to a small company premium, there are strong arguments for the inclusion of a FOAK premium. The RIIO-2 period will be the first time the ESO is regulated on a standalone basis with a bespoke regulatory framework. Therefore, there is potential uncertainty regarding the regulatory regime, and a possibility that investors would require a return premium to compensate for the associated incremental uncertainty.

In the past, a 'novelty' premium has been recognised by regulatory and public bodies. For example, the former Department of Energy and Climate Change accepted that the new regulatory regime that was introduced for subsidising renewables in the UK should incorporate a 'novelty premium' of 25bp to the cost of capital, on the grounds that there might be 'uncertainty associated with how the regime and institutions would work'.¹⁹

Alternative mechanisms

As set out above, we believe that it may be more difficult for the standalone ESO to access public debt markets. Given the size and tenor of our requirements, we plan to rely more heavily on bank debt as our core term debt funding strategy. This is also in line with how our current term debt is structured, which is via a term loan.

We believe it is appropriate to explore a form of cost of debt allowance that looks to fund efficiently priced bank debt, and we welcome Ofgem's openness in the consultation to explore suitable alternative options.

LIBOR plus credit spread of index

The bank debt market, which is a floating rate market, is usually a more appropriate and accessible financing source for smaller companies such as the ESO, and is our preferred funding solution. We are not aware of any market index of bank loan data that can be used directly to set allowances, but it is theoretically possible to create a cost of debt mechanism based on bank debt by linking the allowances to a benchmark inter-bank borrowing rate, LIBOR or its replacement SONIA, and adding an appropriate credit spread and transaction costs. We explore this more below.

Bearing in the mind the Bank of England and Financial Conduct Authority's (FCA) focus to transition away from LIBOR to SONIA as the primary benchmark interest rate in the Sterling market, any such approach should be based on SONIA plus a credit spread. We describe an approach using LIBOR given the availability

¹⁶ Ofwat (2019), 'PR19 draft determinations: Cost of capital technical appendix', section 4.4 and Appendix A1.

¹⁷ NIAUR (2016), 'Price Control for Northern Ireland's Gas Distribution Networks GD17', para 10.49.

¹⁸ CMA (2015), 'A reference under section 12(3)(a) of the Water Industry Act 1991', Report, para 10.152.

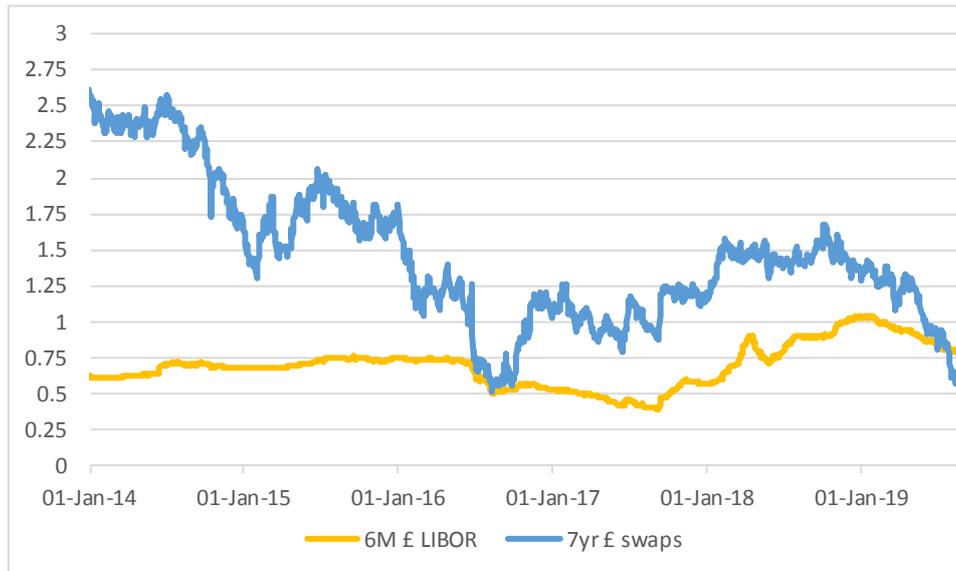
¹⁹ Department of Energy & Climate Change (2013), 'Annex H: Modelling Assumptions: Changes to modelling assumptions in response to Draft Delivery Plan Consultation responses and other evidence', 19 December

of data; however, we propose that a SONIA-based approach is developed, as this will reflect the market standard for floating rate bank debt in RIIO-2.

If the ESO was to employ a strategy of issuing fixed rate debt, then we believe that setting a cost of debt linked to the trailing average of the 5-7 and 7-10 year BBB iBoxx indices would be the most appropriate approximation, as these indices are made up of bonds with an average tenor of around 7.2 years. However, should floating bank debt be issued, this would create an exposure on the borrower of the differential between the long and short-term rates.

For example, the graph below shows that, for the period 2014 to 2017, 7-year Sterling swap rates fell by around 2.5%, while 6-month LIBOR was relatively stable. This could result in a LIBOR borrower being under-funded should allowances be set based on full iBoxx indexation.

Figure 2



Using a credit spread over an interbank borrowing rate would therefore be a more appropriate approach. However, an approach using LIBOR is not perfect. A significant timing mismatch would still exist if the index was based on a daily average LIBOR rate over a period, as floating rate contracts are typically reset every three or six months. This exposes the ESO to the risk that rates are high on these two or four reset days in a given year. We therefore suggest that allowances should be set with reference to this quarterly reset standard practice, i.e. the cost of debt for a given year would be based on an average of LIBOR on four specified dates during the year.

There are some practical considerations with this approach. In order to set an ex ante allowance for the upcoming year under this methodology, we would expect forward LIBOR rates to be used. If it were realised that LIBOR was lower / higher than forecast, this would then need to be corrected through a true-up mechanism. We believe this approach would also be required for CPIH forecasts inherent within both cost of debt methodologies. Such true-up mechanisms are widely used within the RIIO-1 framework for a number of cost / allowance categories, and we anticipate the continued use of true-ups in RIIO-2.

As we are not aware of any market index of bank loan data, we suggest that the credit spread provided under this risk-free rate plus credit spread methodology should be based on the iBoxx indices. Following Ofgem's approach in the working assumption for cost of debt, we have used 154bps as the average index asset swap margin of the 5-7 and 7-10 BBB iBoxx indices over the last three years.

As mentioned, given LIBOR will be discontinued at the end of 2021 and replaced by SONIA as the Sterling benchmark interest rate, we believe that allowances should similarly be based on SONIA plus a credit spread. We anticipate the allowance mechanism being modified in the future to acknowledge the industry standard conversion from LIBOR to SONIA, and would want to work with Ofgem to agree the basis on which this is enacted.

Additional costs of borrowing

We set out above that we are more likely to fulfil our requirements through bank debt arrangements, and therefore we seek to understand the likely transaction costs associated with bank loans to ensure consistency

with our proposal above. We have reviewed pricing proposals from a number of banks based on 3-year, 5-year and 7-year maturity bank loans at a variety of credit ratings. We have also reviewed the costs associated with raising our existing debt. This suggests transaction costs of at least 10bps when looking at a 5-year loan.

We believe that any cost of debt allowance should include 10bps as a minimum to cover the transaction costs associated with bank debt. This should be recalibrated if the cost of debt allowance is set with reference to the bond market.

Conclusion

Given the shorter asset lives and relatively small scale of ESO debt requirements, we anticipate using bank loans as the primary source of debt funding the notional (and actual) ESO. We therefore believe it is in consumers interests to have a cost of debt allowance methodology that looks to approximate these costs. We recommend an allowance indexing against 3-month LIBOR, drawing on four positions across the year plus the credit spread associated with the 5-7 and 7-10 year iBoxx indices for BBB rated UK non-financial corporates, and that a SONIA-based approach should be developed. We recommend that an allowance of 10bps for transaction costs and 25bps for notional company adjustment are also included.

Using current LIBOR forwards forecasts, this suggests an average real cost of debt allowance of 0.67% for RIIO-2.

Figure 3

Year	LIBOR (%) (A)	Credit spread (bps) (B)	Notional company adjustment (bps) (C)	Issuance costs (bps) (D)	Nominal yield (%)	CPI forecast (%)	Real cost of debt allowance (%)
FY22	0.754	154	25	10	2.64	2%	0.63%
FY23	0.765	154	25	10	2.65	2%	0.64%
FY24	0.780	154	25	10	2.67	2%	0.66%
FY25	0.801	154	25	10	2.69	2%	0.68%
FY26	0.843	154	25	10	2.73	2%	0.72%

Index = A+B+C+D

- A Average implied forward 3-month GBP LIBOR for 30 June, 30 September, 31 December and 31 March in each year
- B Average index asset swap margin of BBB 5-7 year and BBB 7-10 year iBoxx non-financial GBP indices over the last three years
- C 25bps for notional company adjustment
- D 10bps issuance costs

Allowance for equity finance

Q4 Do you agree with our proposed approach to use the three-step methodology to assess baseline allowed returns to equity?

Summary of views

We agree with the use of CAPM to estimate the cost of equity for the ESO for the RIIO-2 period. For the generic parameters of CAPM, our position is consistent with the views of the Energy Networks Association (ENA) members, as presented in various ENA submissions²⁰ during RIIO-2 engagement. For the ESO specific CAPM parameters, estimates should reflect the differences of the ESO relative to the network companies, e.g. reflecting the asset-light nature of our business.

As we set out above, we believe there is merit in considering the addition of a premium to the cost of equity. This could be a small company premium, a FOAK premium, or both.

²⁰ <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-consultation>

We welcome Ofgem's continued consideration of additional remuneration requirements, given not all risks are fairly compensated by the cost of equity estimated using a CAPM methodology.

We agree with the principle of cross-checking the CAPM-implied cost of equity. As part of the cross-checks, we consider that it is useful to look at whether the individual financing parameters for the ESO are reasonable by analysing the overall profitability that is implied for the business in RIIO-2 (i.e. an EBIT margin adequacy test). If the overall EBIT margin is inadequate relative to benchmarks, e.g. from regulatory precedents and asset-light comparators, this would suggest that the allowed return on the asset-light RAV of the ESO is insufficient.

We disagree that the CAPM allowed return should be adjusted to reflect the expected contribution of financial incentives in the price control design (i.e. Step 3: Expected versus allowed returns). We note that this is likely to be not applicable for the ESO given our experience under the current incentive scheme of a very small incentive award.

Three-step methodology

Ofgem has proposed using a three-step methodology for estimating the baseline allowed returns on equity capital. This methodology is consistent with the approach taken for the network companies for RIIO-2,²¹ and includes the following steps:

- Step 1: The Capital Asset Pricing Model (CAPM) evidence
- Step 2: Cross-checking the CAPM-implied cost of equity
- Step 3: Expected versus allowed returns

Overall, we consider that the first two steps are appropriate for setting the baseline allowed returns on equity capital. However, we disagree that the allowed returns should be adjusted to reflect expected contribution of the financial incentives in the price control design (Step 3: Expected versus allowed returns).

Also, as explained in further detail in response to questions 8 and 9, additional remuneration is required to compensate for risks and activities that are not directly proportional to the RAV, on which a CAPM-based return would be applied.

In the rest of this section, we discuss our detailed views on each step in the three-step methodology.

Step 1: The Capital Asset Pricing Model (CAPM) evidence

We agree with the use of CAPM to estimate the cost of equity for the ESO for the RIIO-2 period. CAPM requires estimation of two generic parameters (i.e. parameters that are consistent for all companies in the market, namely the risk-free rate (RFR) and the equity risk premium) and one company-specific parameter (i.e. the equity beta).

Risk-free rate and equity risk premium

On the RFR and the equity risk premium, our position is consistent with the views of the ENA members as presented in various ENA submissions during the RIIO-2 engagement, e.g. the Oxera report on the cost of equity for RIIO-2.²² We are aware that the ENA has commissioned Oxera to update its views on the cost of equity parameters in light of the latest capital market and regulatory evidence. Therefore, at this stage, we have not made any additional comments on the appropriateness of the generic parameters proposed by Ofgem.

Asset beta

We consider that Ofgem's working assumption of 0.60 informed by the CMA / SONI precedent is appropriate for calibrating the allowed cost of equity for the ESO as it falls at the bottom end of the range of 0.6-0.65 as set out by our independent experts.²³ SONI is a relevant comparator to the ESO risk profile, undertaking many similar roles, e.g. system operation, system planning and industry revenue management. Therefore, an asset beta of at least 0.60 is appropriate for the ESO.

Our business is relatively asset-light compared to the network companies, which implies higher systematic risk exposure for the ESO, e.g. due to higher operational gearing. Therefore, the network companies are not appropriate comparators in calibrating an estimate of the asset risk of the ESO. The relationship between

²¹ Ofgem (2019), 'RIIO-2 Sector Specific Methodology Decision – Finance', 24 May, section 3, https://www.ofgem.gov.uk/system/files/docs/2018/12/riio-2_finance_annex.pdf

²² Oxera (2018), 'The cost of equity for RIIO-2', 28 February

²³ We set out more detail on this range in our response to question 5 of this consultation

asset intensity and asset beta has been recognised in regulatory precedents, e.g. the asset beta for SONI was assumed to be higher than regulated network companies, reflecting the increased risk associated with higher operational gearing. We provide further considerations in relation to the calibration of the ESO allowed asset beta in our response to question 5 below.

Gearing

The level of notional gearing refers to the proportion of debt in the overall capital structure of the company. In terms of the cost of equity estimation, the assumed level of gearing affects the equity beta through re-levering the asset beta to the target financial structure of the regulated company. As examples of market and regulatory evidence, we consider the following data points are relevant in calibrating a notional gearing assumption for the ESO:

- The ESO's current level of gearing with reference to our existing loan is around 60%.²⁴
- A notional gearing ratio of 55% was assumed by NIAUR in deriving a WACC allowance for SONI.²⁵
- The gearing ratio within regulatory decisions for energy or water network companies tends to be higher at approximately 55–65%. Compared to network companies, an upper-bound estimate of the notional gearing for the ESO could be inferred as 55%, as informed by the bottom end of the Ofgem RIIO-1 notional gearing range for networks.²⁶
- A debt / capitalisation ratio of 40–50% and 50–59% is consistent with an A and Baa rating, respectively, in Moody's Rating Methodology for Regulated Electric and Gas Utilities. Moody's has specified that this includes a wide variety of companies, including independent system operators.

On the balance of evidence, we assume a notional gearing range of 50–55% for the ESO. Therefore, we agree that a working assumption of 55%, which lies at the top end of the range, is reasonable at this stage. However, as set out in our response to question 14, we agree that it is too early in the process to decide the notional gearing level.

Debt beta

The debt beta measures the sensitivity of a bond's return relative to the market return. The consultation document assumes a debt beta of 0.125 for deriving the equity beta for the ESO.

We consider that the debt beta assumption of 0.125 is inappropriate and, rather, a debt beta assumption of 0.05 should be used to derive the equity beta for the ESO. The empirical analysis prepared by Oxera for the ENA²⁷ shows that current market evidence supports a debt beta of 0.05.

Prior to RIIO-ED1, Ofgem has tended to assume that the debt beta is zero.²⁸ An increase in the debt beta assumption to 0.125 for the ESO does not appear to be reasonable, with reference to current market data. Specifically, a debt beta for debt issued by utilities can be observed from capital market data on publicly traded bonds, using regression methods. Oxera's March 2019 report on beta and gearing presented detailed regression estimation for bonds issued by publicly listed regulated companies²⁹ between 1998 and 2018, and found that many of the debt beta estimates were not statistically significantly different from zero, with a correct specification of the regression model.³⁰ Oxera concluded that the evidence supported a debt beta of 0.05 and did not support Ofgem's Sector Specific Methodology Decision (SSMD) range of 0.1-0.15 for the RIIO-2 networks.

²⁴ Based on the value of RAV for the ESO at the end of 2018/19 financial year and the £120m intercompany loan that was raised on 1 April 2019 to complete the legal separation of the business.

²⁵ NIAUR (2016), 'Final Determination to the Price Control 2015-2020 for the Electricity System Operator for Northern Ireland (SONI)', 22 February, p. 67

²⁶ Ofgem (2012), 'RIIO-T1: Final Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd', Overview document, 23 April, p. 55

²⁷ Oxera (2019), 'Review of RIIO-2 finance issues', 20 March

²⁸ Ofgem (2019), 'RIIO-2 Sector Specific Methodology Decision – Finance', Decision, 24 May, Figure 12

²⁹ I.e. National Grid, Severn Trent, United Utilities, Pennon Group

³⁰ A higher debt beta estimate would be erroneously obtained by simply regressing corporate bond returns on a firm's equity, or on an equity index. This is because both corporate bond returns and equity returns are correlated with government bond returns. Oxera therefore includes the return on government bonds as an explanatory variable, along with the return on the issuing firm's equity. The coefficient on equity thereby provides an unbiased estimate of the elasticity, i.e., the sensitivity of a bond's return to the company's equity return.

We also note that regulatory precedents on the debt beta are not necessarily supported by robust analysis. Specifically, the asset beta for SONI, which is used as Ofgem’s working assumption for the ESO, was underpinned by a debt beta of 0.10.³¹ However, this debt beta assumption was anchored on the CMA final determination on Northern Ireland Electricity Networks (NIE) (2014), which in turn was not underpinned by any detailed analysis – the CMA 2014 NIE decision explicitly stated that the debt beta was assumed to be 0.1, but that it ‘did not carry out work to assess the level of NIE’s debt beta’.³²

Equity beta

Overall, our views on the CAPM parameters outlined above imply an equity beta within a range of 1.15–1.38. Ofgem’s working assumption on the equity beta lies at the bottom of this range, at 1.18. The analysis is presented in Figure 4 below.

Figure 4

Parameter	Min	Max
Asset beta	0.60	0.65
Debt beta	0.05	0.05
Gearing	50%	55%
Equity beta	1.15	1.38

Small company or first of a kind premium

Our response to question 3 detailed a number of reasons why a premium should be added, both to the cost of debt allowance and to the cost of equity. There is evidence to support the inclusion of either or both a small company premium and FOAK premium. As well as evidence to support the requirement for premiums, we also highlighted the regulatory precedents for the inclusion of such premiums.

Step 2: Cross-checking the CAPM-implied cost of equity

We agree with the principle of cross-checking the CAPM-implied cost of equity.

On the specific cross-checks presented by Ofgem, our position is consistent with the views of the ENA members as presented in various ENA submissions during the RIIO-2 engagement process.³³ In relation to Ofgem’s proposed cross-checks on infrastructure fund discount rates, OFTO bids, Market-to-Asset-Ratios and professional forecasts from investment managers and advisors, we consider that the estimates presented by Ofgem may have limited applicability in directly checking the equity return for the network companies in general, or the ESO specifically. For example:

- A review of infrastructure funds’ risk and return characteristics suggests that the funds’ discount rates are not an appropriate cross-check to determine the upper or lower bound of the CAPM cost of equity range. This is because the funds’ asset composition makes them less risky than energy networks. Where funds’ portfolio investments face greater revenue or volume risks than energy networks, these are generally hedged by long-term or availability-based contracts and / or government subsidies e.g. renewable obligation certificates (ROCs).³⁴
- As previously referenced by NGET, considerable deviations (e.g. in taxation and terminal values for Offshore Transmission Owners (OFTO) bids) imply limited comparability in equity returns between networks (or indeed, in our case, the ESO business) and OFTOs.
- Market-to-asset ratios (MARs) have limited direct application within Ofgem’s approach – Ofgem concludes that a MAR greater than one implies that investors expect to earn returns in excess of their cost of capital.³⁵ Ofgem does not conclude on a numeric value for a reasonable cost of equity range from this cross-check. We consider that MARs are influenced by a number of factors including taxation, timing and

³¹ NIAUR (2016), ‘Final Determination to the Price Control 2015-2020 for the Electricity System Operator for Northern Ireland (SONI)’, p. 72

³² CMA (2014), ‘Northern Ireland Electricity Limited price determination’, 26 March, p. 13–6

³³ <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-consultation>

³⁴ Oxera (2019), ‘Infrastructure fund discount rates’, March 20

³⁵ Ofgem (2019), ‘RIIO-2 Sector Specific Methodology Decision – Finance’, 24 May, para 3.186.

amount of operational and incentive outperformance, and measurement issues (e.g. traded MARs exhibit a high degree of volatility). We also note that Ofgem itself has previously cautioned against a mechanistic reliance on MARs in cross-checking the cost of capital allowance, stating: “On balance, we agree with Oxera that market to RAV ratios within the UK market cannot be used to justify a cost of capital for the GDNs. Specifically, we consider there are too many degrees of freedom between the market / RAV ratio and the cost of capital. This requires assumptions on an investor’s expectations for performance against operational targets, their expectations for funding cost, and their views on future cost of capital policy by the regulator”.³⁶

- Evidence from investment managers suffers from practical and theoretical limitations in serving as a direct benchmark for RIIO-2 returns. The FCA “prescribes the maximum rates of return that financial services companies must use in their calculations when providing retail customers with projections of future benefits”.³⁷ Total market return (TMR) estimates produced by investment managers have the primary purpose of providing prudent estimates of future returns to their clients (i.e. they exhibit a downward bias). In contrast, it has been recognised that the costs of setting the allowed rate of return too low for regulated utilities may exceed the detriment from setting too high a regulated return relative to the true cost of capital.³⁸ Also, investment manager forecasts will exhibit additional downward bias due to geometric averaging, which would be subject to correction for application to the regulatory price control.³⁹

For the ESO, we believe an important cross-check is to analyse the role of the individual financing parameters for the ESO’s funding model in implying adequate overall profitability of the business. The analysis is required to evaluate whether the RAV*WACC based return would provide a sufficient level of profit to the company in the context of our relatively low asset base. For example, an EBIT margin range established with reference to comparator companies could be used to check the overall EBIT adequacy for the company.

There are regulatory precedents that support the use of margin-based revenue setting, especially in asset-light industries – including for Smart Data Communications Company (DCC) by Ofgem – where the relevant measure of margin is EBIT.

Finally, we welcome Ofgem’s continued consideration of additional remuneration requirements for the risks that may not be appropriately covered under a CAPM methodology (e.g. the remuneration of the industry revenue management role).

Step 3: Expected versus allowed returns

We disagree that allowed returns should be adjusted to reflect expected contribution of the financial incentives. Baseline allowed returns on equity capital should be based on appropriately calibrated CAPM estimates. Any expected out (or under) performance should result in actual returns being higher (or lower) than the baseline allowed returns on equity capital and reflect the consumer value that the ESO has delivered, and been rewarded for, through the incentive scheme. There is a tenuous relationship between the allowed cost of capital and the total expected outperformance of a regulated company. CAPM rewards systematic risk, while expected outperformance is driven in part by company-specific factors. Therefore, any adjustment to the allowed cost of capital is not an appropriate lever to address expected outperformance. Operational and performance targets should be calibrated in the first place to deliver an appropriate package of incentive outperformance.

We note more broadly that Ofgem has not yet determined the value range and parameters of incentives for the ESO in RIIO-2, which would directly influence whether there is any expected out / underperformance. The previous year’s ex post evaluative scheme demonstrates the difficulty in arriving at a point estimate for expected performance, noting that the Performance Panel recommendation, based on evidence presented at the end of year review for 2018/19, had a wide potential range of +/-£12m and provided a very small overall award of £860,000.

A proposal to adjust allowed returns with an assumption of expected performance adds to the perception of increased regulatory risk. Credit rating agencies have published extensively on the ‘outperformance wedge’ assumption Ofgem has proposed for the network companies, which they regard as a departure from established principles and past regulatory practice. If such proposals are implemented, this may lead to the

³⁶ Ofgem (2007), ‘Gas Distribution Price Control Review: Updated Proposals’, September.

³⁷ Financial Conduct Authority (2017), ‘Rates of return for FCA prescribed projections’, p. 5

³⁸ E.g. Ofcom (2016), ‘Business Connectivity Market Review’, 28 April, para. A30.238

³⁹ For more details, see: Oxera (2019), ‘Review of RIIO-2 finance issues’, Rates of return used by investment managers, 6 March

downgrading of qualitative scores attributed to the regulatory regime and the raising of financial thresholds for any given credit rating.

Q5 When estimating equity beta, which listed companies should we consider?

We consider that the listed comparator sample for the asset beta estimation should be identified relative to the key activities and risks of the ESO's activities. The ESO as a whole could be described as a combination of:

1. A specialised service provider that depends on advanced IT equipment and qualified staff to deliver continuous operation of the electricity network (i.e. operating and balancing the system role).
2. A consultancy and administration service (i.e. the market and industry services role).
3. A cash intermediation service that acts as a trusted counterparty, managing the flows of payments within the electricity industry (i.e. the industry revenue management role).

We believe it is important to consider organisations that exhibit similar characteristics. We commissioned Oxera to undertake an exercise to estimate the cost of equity for the ESO, focusing on ESO specific financial parameters. This included an analysis of companies included in the FTSE 350 index, performing a series of filters in order to select a set of comparator organisations. These steps were:

Step 1: Asset Intensity Filter – quantitative assessment retaining companies with relatively low levels of asset intensity.

Step 2: Industry Filter – qualitative assessment of industry descriptions, retaining industries that exhibit similar characteristics to the three roles of the ESO as set out above.

Step 3: Company Filter – review of company descriptions of remaining organisations in the sample to match descriptions with a list of 13 ESO characteristics and risks.

This analysis identified seven companies that share some of the relevant ESO characteristics.⁴⁰ For example, one of the organisations identified through this process is the London Stock Exchange, which exhibits many of the same attributes as the ESO and is exposed to many of the same risks; it has lower asset intensity, faces limited competition risk and is exposed to high reputational risk as well as liquidity risk and exposure to the timing of cash flows. Of the 13 characteristics and risks reviewed in the analysis, the London Stock Exchange exhibits 12 of them. For more detail on the analysis performed please refer to the Oxera report, which is attached as an Annex A to this response.

The analysis undertaken shows that the average asset betas for the seven identified comparator companies range from 0.87 (five-year average asset beta from the range 0.65–1.08) to 0.94 (two-year average asset beta from the range 0.75–1.10). The analysis implies an asset beta average of the whole two-year and five-year comparator sample of 0.91.

In setting an allowed asset beta for the ESO, we also consider that it may be appropriate to give some weight to the beta of the utilities. The allowed asset beta for the ESO could be derived with reference to (i) the asset beta derived from the comparator sample (i.e. 0.91), recognising the asset-light nature of the business as well as our different roles and (ii) the asset beta for network utilities (i.e. a 0.38 asset beta proposed by Ofgem), recognising the limited competition the ESO faces in providing our activities. A midpoint of the comparator and RIIO-2 asset beta would imply an asset beta for the ESO of 0.65.⁴¹

The analysis undertaken by Oxera concluded an appropriate asset beta range for the ESO of 0.6 to 0.65.

Q6 Do you agree with our proposal to update the allowed returns on equity for changes in the risk-free rate, as described in the SSMD Finance Annex?

We agree with Ofgem's proposal that cost of equity indexation is best achieved through the indexation of the RFR.

⁴⁰ These companies are London Stock Exchange Group, TP ICAP PLC, Capita PLC, Balfour Beatty PLC, Experian PLC, UDG healthcare PLC, Sophos Group PLC

⁴¹ This approach is conceptually similar to the SONI precedent, where the regulator equally weighted the asset beta for a market average firm and the recent regulatory decisions for regulated network companies

We consider that the methodology for updating the RFR for the ESO should be aligned with the network companies. Our position is consistent with the views of the ENA members as presented in various ENA submissions during RIIO-2 engagement.⁴²

Methodology for considering additional funding

Q7 Do you believe that we should categorise ESO risks into seven categories (see our taxonomy at Appendix 2) for the purposes of assessing additional funding claims?

We agree that the taxonomy in Appendix 2 of the ESOMDD provides a useful starting point for understanding the risks that the ESO is exposed to. However, we need to be mindful of the three distinct roles the ESO carries out:

- Operating and balancing the system – we balance the electricity system in real time, and facilitate and run balancing markets in the short-medium term, to ensure the lights stay on.
- Market and industry services – we perform a wide range of activities to support the wider system and industry, including optimising long-term network planning, administering four industry codes and standards, being the delivery body for Electricity Market Reform (EMR), producing future scenarios and outlooks, and fostering innovation and whole system solutions.
- Industry revenue management – we are responsible for collecting, managing and distributing over £4bn of use of systems charges annually for TNUoS⁴³ and BSUoS,⁴⁴ as well as administering Connections Charges.

The risks described in Appendix 2 of the ESOMDD may be present in only one role, or all of the roles in some cases. Importantly, each role has a different sized RAV, so under the proposed RAV*WACC funding mechanism the size of the remuneration for each role is very different to the size of the risks inherent within it.

Further, we note that the taxonomy captures risks at a very high level, without differentiating in terms of scale or complexity. A bottom-up approach to listing individual risks fails to capture or reflect the somewhat intangible, overarching risks, and the investor-perceived risks, that exist for a relatively small business working to deliver a critical service to society, in a complex and rapidly changing environment, driven by a hugely ambitious agenda set by our customers and stakeholders.

Q8 Do you believe that the three tests we propose are suitably comprehensive?

In principle, we fully agree that we should not be remunerated twice for the same risk. However, in practice, there is a difference between receiving remuneration and ensuring that it constitutes a fair return for the scale of the risk. We agree that each of the three tests has a role to play, but we believe there is an important first test missing from Ofgem's approach, and a missing final cross-check.

The first and most fundamental test is to consider the size of the risk in relation to the asset base. If the risk does not correlate to the size of the RAV then an alternative approach is required. If the size of the RAV related to the activity is relatively small (e.g. the industry revenue management role), we can conclude that remuneration for the risk is not adequate. If this is the case there is no requirement for the CAPM and double count test, which assumes remuneration based on a return on the RAV.

If we have established a correlation between risk and RAV, as we may do for a more asset-intense role such as the provision of balancing services, then we should consider test 1.

Test 1 – CAPM and double count

There are some areas where an element of the risk will be remunerated under CAPM or the beta judgement, but not sufficiently to cover the scale of the risk. This would occur in activities that have a low level of capital employed in the RAV, such as those within our market and industry services role. This is further explained in response to question 9.

We agree that symmetry should be considered; some of our risks are not symmetrical, and this should be recognised.

⁴² <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-consultation>

⁴³ Transmission Network Use of System charges

⁴⁴ Balancing Services Use of System charges

Overall, we agree with the three steps in this test.

Test 2 – Mitigation

We agree with considering whether the ESO is best placed to hold risk, and how far the regulatory framework mitigates risk already.

Test 3 – Scale

We agree that this is a useful step in the process, but we do not agree that it is a test. Rather than being a test of whether further remuneration is required, it is a step in the process of determining how much additional remuneration is required and how it could be provided. We agree with including the consideration of what any additional remuneration should be linked to, i.e. what it should scale with.

In addition to the methodology, Ofgem set out to test whether individual risks have been appropriately remunerated. We believe that it is also important, where possible, to cross-check the results of the test to relevant benchmarks. This should be done at both a role and organisational level, to ensure that each major role of the ESO is adequately remunerated for the activities and services we are delivering on behalf of industry and consumers.

This is an important cross-check to ensure that risks that are not easily quantified, but are clearly non-zero, have been appropriately considered. It is also an important step in providing a fair return to ensure the ESO can be the ambitious, forward-looking and proactive organisation that Ofgem has set out as its intent. In order to achieve such an aim, the framework must encourage the company to take on additional responsibilities or try new things without the fear of negative risk impacts, e.g. cost disallowance. Additional funding can support proactivity and ambition, whereas a framework that does not provide fair remuneration will create perverse behaviours.

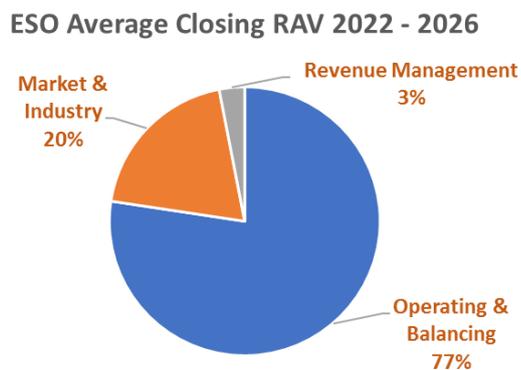
Q9 What are your views on the ESO’s additional funding assumptions, as summarised above (from its July 2019 submission)?

In our July consultation response, we set out some illustrative assumptions to explore how we could be remunerated for risks we believed were not adequately covered by the RAV*WACC model. We have continued to consider how we can provide further quantitative evidence around the need for additional funding, noting Ofgem’s comments that “risks should be assessed on their own merit”, and that linking additional funding to other variables may create perverse incentives.

ESO roles – risks and remuneration

To more clearly consider the question of risk and return, we believe it is appropriate to look at the quite different and separate roles the ESO performs, and the associated remuneration for each. Under the current proposed RAV*WACC model, the ESO receives a return on each role based on the size of the capital employed in the RAV for that role. The chart below illustrates the relative size of the RAV for each of our three main roles.

Figure 5



The chart illustrates that our market and industry and industry revenue management roles are service-based roles that are asset-light. Under the RAV*WACC model, we are remunerated on our capital employed in the RAV; however, these activities are mainly opex related. The relative returns for each role are set out in the

table below. It should also be borne in mind that the return values below include an element relating to the cost of debt that is expected to be offset by an interest charge.

Figure 6

Role	Return (£m)
Operating & balancing	9.2
Market & industry	2.0
Revenue management	0.3

The table illustrates the relatively low level of return attributed to the service-based market and industry and revenue management roles. It is not that these roles are without risk; they simply have a low level of capital employed in the RAV. This is demonstrated in the table below, which correlates the seven risk categories in Ofgem’s risk taxonomy to each of these roles.

Figure 7

Risk category	Operating & balancing	Market & industry	Revenue management
Revenue collection			✓✓
Performance	✓✓	✓✓	
Cost	✓✓	✓✓	✓✓
Operational	✓✓	✓✓	✓
Reputational / Political	✓✓	✓✓	
Legal	✓✓	✓✓	✓✓
Regulatory	✓✓	✓	✓

✓	<i>Potential for risk in role</i>
✓✓	<i>Risk in role</i>

Based on the above analysis, it is clear that the industry revenue management role requires some form of additional funding. It is not credible that any commercial organisation would take on such a high-risk role for which the best case scenario is to break even. There are significant risks in transacting more than £4bn of industry revenue across a regulated and changing market.

Our markets and industry role covers a number of activities such as network planning, customer connections, provision of market data, future markets and code modifications, as well as our EMR Delivery Body role. These activities are not without risk. They are undertaken by technical experts and are susceptible to litigation risks, staff attraction and retention risks, risks from human errors and operational risks. It is worth noting that the EMR role contributes significantly to the RAV related to the markets and industry role due to the investment in EMR IT systems. The remuneration relating to non-EMR activities is £1.3m p.a. with an EBIT margin of 1.8%; a level of return that no professional services organisation would accept.

The size of the RAV associated with our operating and balancing role means that a proportion of the risk is already remunerated for this activity. However, we believe that the risk of cost disallowance in this role is not fully remunerated, as this risk extends beyond the size of the RAV and does not scale with it.

Our risks are discussed in more detail in Appendix 1.

Sizing the risk and additional remuneration

In order to begin to size the level of additional remuneration and ensure that risks are rewarded on their own merits, we have looked at the size, shape, probability and impact of our risks across all three roles of the ESO. To do this we have commissioned an independent report from KPMG, which builds on the risks already recognised by identifying the underlying drivers and consequences of these risks and quantifying a plausible range of downsides. Most importantly, it seeks to quantify the required capital to finance these risks.

KPMG's independent report shows that the total capital requirement for the ESO business is in the range of £955m - £1,060m, of which the RAV is £325-£375m. In order for any form of capital to be effective it must be secured ahead of need. No provider of finance would commit capital ex post to cover losses incurred, hence capital must be committed ex ante to cover losses in case they arise. In order to provide financial resilience in the case of risk impacts, judgement is required in considering the size and likelihood of these risks. The capital committed must be sufficient for the business to manage severe but plausible downside shocks.

It is also relevant that, under our licence, the ESO must provide assurance on an annual basis that we have sufficient resources available to support our activities for the following 15 months; this inherently includes sufficient risk provision. We therefore need to maintain sufficient capital to finance the risks (whether point in time or permanent losses) to ensure financial resilience and financeability. Much of this capital requirement is related to activities and risks that are not correlated to the RAV or the capital directly employed in the RAV, and covers all three roles.

The contingent capital that is committed to the business over and above the capital directly employed in the RAV needs to be remunerated. This contingent capital is something any business would want access to in order to appropriately manage its risks. The KPMG report provides an illustrative cost of remunerating this capital based on overall company WACC. This suggests that the ESO could expect an overall return in the range of £55m-£61m, and therefore suggests a funding gap in the range of £36m - £39m.

While this top-down approach to sizing the capital employed across our risks is a useful assessment of the magnitude of the additional returns that could be required, it is useful to cross-check this with a margin-based assessment that benchmarks returns to other comparator sectors or companies, to give appropriate consideration to where competitive forces and regulatory precedent have driven remuneration levels.

Cross-check on the size

We have cross-checked the outcome of the KPMG analysis using other margin-based benchmarks, as follows:

- For the industry revenue management role, we have considered the results of the independent report prepared by Oxera on the ESO cost of equity (in Annex A), which estimates an appropriate margin on external costs by drawing on two pieces of analysis. The first is a benchmark analysis against comparator companies that undertake financial intermediation activities. The second examines regulatory precedents, more specifically the regulatory parameters following the CMA / SONI determination, the relevant price control parameters for EirGrid, and the final determination for SEMO.⁴⁵ This results in a point estimate of a margin on external revenues of 35bps.
- For the market and industry services role, we have used KPMG's benchmark analysis of 72 comparator companies in the professional and commercial services industry, as set out in its report⁴⁶ published alongside our July consultation response.⁴⁷ This indicates an EBIT margin of 11%.
- For the operating and balancing role, we have used KPMG's benchmark margin, which is based on the London Stock Exchange forecast operating margin adjusted to remove ESO's RAV return. This suggests a comparable operating margin of 13.9%.

⁴⁵ SEMO – Single Electricity Market Operator, which operates a single wholesale market for Ireland and Northern Ireland

⁴⁶ KPMG (2019), 'Independent report on the ESO business, financeability and price control approach', <https://www.nationalgrideso.com/document/147601/download>

⁴⁷ ESO July consultation response (2019), <https://www.nationalgrideso.com/document/147596/download>

If we apply the above margin assumptions, this suggests a funding gap compared to the RAV*WACC funding model of £32m - £36m.

Conclusion

Our roles expose us to considerable risks, which should be remunerated. These include risks posed by our revenue management role, the ex post disallowance mechanism, political and regulatory changes, legal challenges and reputational impacts.

Our analysis highlights that our risks are not fairly remunerated under the current RAV*WACC funding model. Additional remuneration is required to cover the risks the ESO is exposed to that are not correlated to our RAV or mitigated through the framework. Our initial analysis, based on assessment of capital requirements and separate benchmarking cross-checks, shows that this gap is in the region of £32m-£39m. We recognise that more quantitative analysis is required, and we will continue to engage with Ofgem to develop this.

Financeability

Q10 Do you agree the above metrics are relevant for consideration of financeability of the ESO? Are there any other metrics that should be added?

The metrics referred to in the consultation document are presented as a potential aide to financeability, without a definition from Ofgem of how to interpret the term financeability.

Our view is that whether a company is financeable or not depends on the ability of that company to service the needs of both its debt and equity investors, and therefore raise the finance it needs to conduct its business.

As a result, any assessment of financeability needs to consider a suite of both debt and equity metrics, and should be accompanied by a top-down cross-check that considers the company as a whole, as well as focusing on individual metrics. This includes consideration of comparator companies and the levels of return that they make, as well as consideration of the view that is taken by credit rating agencies, who ultimately provide the rating that determines whether the company can confidently trade with its counterparties.

At this stage, the metrics that have been proposed by Ofgem do not include any defined thresholds. Some of these metrics, because they are used by credit rating agencies, imply thresholds based on rating agency generic methodology guidance. Other metrics, both those suggested by Ofgem and the additional ones that we propose below, require judgement in their interpretation.

Our actual rating was determined by Moody's Investors Service (Moody's) in March 2019⁴⁸, which assigned a rating of Baa1 to the ESO. Its report highlighted that:

"The outcome of the methodology grid is A1 on a forward-looking basis (following the legal separation of NG ESO from NGET). The assigned rating is three notches lower, reflecting NG ESO's unusually high cash flow volatility and associated liquidity risks, offset by its ownership by National Grid plc."

This means that the standalone company has a weaker credit profile than implied by our published rating, and that significant judgement was applied in the final rating in relation to the levels of volatility experienced by the ESO and the inherent instability in our metrics. As set out earlier, we believe that the notional ESO, operating as a separate entity, should be financeable on a standalone basis without reliance on, or a presumption of, support from National Grid Group. This means funding the ESO on the basis of the rating we would be expected to receive without such support.

It should be noted that the principal methodology used by Moody's was its Regulated Electric and Gas Utilities methodology. This methodology includes four specific financial ratios (included in Ofgem's suggested metrics listing), as well as significant judgement on qualitative measures that are borne in mind.

Moody's has not issued any quantitative guidance for the ESO, which we believe is because of the high levels of volatility inherent within our organisation. This makes a quantitative assessment of the notional ESO's credit strength more challenging, and this is one of the reason why metrics should be viewed relative to the recent assessment.

⁴⁸ Moody's initial rating, https://www.moodys.com/research/Moodys-assigns-Baa1-rating-to-National-Grid-Electricity-System-Operator--PR_396553

We believe that the ESO should be assessed using both debt and equity metrics and against a range of scenarios. In Appendix 2, we set out our considerations in relation to each of the metrics suggested by Ofgem. We also propose some additional metrics that we believe would be beneficial to review as part of any financeability assessment.

We note that many of the debt-based metrics traditionally used, including those used by Moody's, are of limited value when considered in the context of the ESO. The ESO's short asset lives means that we exhibit relatively high Funds From Operations (FFO) and Cashflow From Operating activities (CFO). This, coupled with capex that is not particularly discretionary and capex that is trending above depreciation, shows metrics that may give an overly positive perspective.

Debt metrics that place more emphasis on including consideration of capex and / or depreciation impacts are more meaningful given the largely non-discretionary nature of our capex programme.⁴⁹ For this reason, we believe it is important to also include the Adjusted Interest Coverage Ratio (AICR).

As stated earlier, we believe it is important to consider metrics that review equity financeability. We therefore suggest a number of additional metrics below. Two of these have been included in Ofgem's guidance for the network companies. We will continue to consider alternative metrics in addition to those below for inclusion in our RIIO-2 business plan.

Figure 8

Metric	ESO View
Dividend / Regulated Equity	Measure relative attractiveness of dividend policy
Dividend Cover	Measure relative attractiveness of dividend policy
EBIT Margin Controllable Revenue	Market comparator cross check of control
EBIT Margin Total Revenue	Allow comparability to other precedents

Dividend metrics are important indicators of the strength and viability of the equity proposition. The dividend metrics mentioned here are important considerations in assessing the ability of the company to pay dividends to equity investors. As highlighted in the investor survey that National Grid plc undertakes each year, most investors consider the dividend fundamental to their assessment of National Grid, with several stressing the importance of a sustainable, growing dividend. This is increasingly important when considering that we are competing for capital not just with other UK regulated companies, but worldwide, given the increasing number of investment funds with global mandates.

EBIT margin is an established financial measure of a firm's profitability. In response to question 4 above, we set out our belief that its measurement is an important cross-check in the calibration of our allowed return. We have therefore included two EBIT margin metrics in the above table, with the difference between them being the amount of revenue that is included in the denominator, as outlined above.

Inflation indexation

Q11 Do you agree that the ESO RAV indexation and WACC allowance should follow the approach decided for the networks, i.e. immediate switch to either CPIH or CPI from RIIO-2 onwards?

We agree with the proposal to move to either CPIH or CPI from RIIO-2 onwards by means of an immediate switch, as outlined in Ofgem's SSMD.

The funding model that has been decided for the ESO was the result of a consultation issued by Ofgem in May 2019. That consultation included the statement from Ofgem that the model would "honour the existing RAV carried over from RIIO-1". The decision document did not specifically refer to the treatment of this existing RAV with respect to CPIH transition.

Our previous response pointed out that the existing RAV is likely to be in the region of £230m and would unwind within seven years. Given the limited value and life of this RAV, we suggested that this RAV, for

⁴⁹ A large proportion of ESO capex is used to provide the robust IS systems that support our balancing services role

simplicity, should unwind in a simple, transparent way, potentially without the requirement for recalculation during the price control as part of a bespoke settlement agreement.

Given Ofgem's decision to fund the ESO through a RAV*WACC model, we assume that it is likely that the existing RAV would be treated in a consistent way with new RAV additions under a CPIH / CPI-based framework, which is how we will treat it in our upcoming October draft business plan.

Revenue collection

Q12 Do you agree that it could be more efficient if Transmission Network owners bear TNUoS revenue collection risk, to reflect respective variances between allowed and actual revenue?

The ESO is responsible for the billing and settlement activity for TNUoS revenues and is currently exposed to the risk relating to variances between allowed and actual revenue. While we consider it to be in the best interests of consumers to retain the central management of this activity, we agree that there are potentially other ways of managing the risk associated with the collection of network revenues – i.e. the risk that the cash collected from customers is less than the amount due to TOs.

We are open to, and would welcome, further discussion with Ofgem and industry in this area to ensure that the risk is held by the most appropriate party. We highlight that this risk does not just manifest in the collection of TNUoS charges but extends to other charges as well, such as the AAHDC.⁵⁰ However, TNUoS is the most material.

The ESO is exposed to revenue collection risk because of various factors, each of which could be altered to change the risk dynamic and potentially move risk from the ESO to another party. In exploring any options to move risk, it is important to note the following general principles:

- Moving the risk from the ESO to another party will not remove the risk – it will simply move it elsewhere, and must still be managed and remunerated.
- The risk should be held by the party best placed to manage it. This includes consideration of fairness to the various industry participants, ability to influence the outcome, and the presence of balance sheet capacity to accommodate the risk.

Any consideration around moving this risk needs to recognise that it affects multiple industry participants and therefore consumers. Any options should be explored fully with relevant industry parties, and should ensure that the customer and consumer experience is not negatively impacted.

We note that BSUoS collection risk will be retained by the ESO. It is also relevant to note that there are ongoing industry discussions around how BSUoS costs should be structured and charged in future. Several of the options for potential future change could significantly change our point in time liquidity exposure; for example, through fully or partially fixing some or all of the components of BSUoS, if this is shown to be in the interests of consumers.

Q13 Do you agree that, to the extent not funded through other mechanisms, WCF costs could be passed-through? Could this arrangement be limited to arrangement fees, extension fees and commitment fees?

We acknowledge that the costs associated with a WCF could be treated as pass-through, i.e. all costs associated with putting a facility in place and using it, including all borrowing costs, are passed through. We do not believe that funding could be limited to arrangement, extension and commitment fees. The reasons for this are:

- Should only arrangement, extension and commitment fees be passed through there is no funding for the interest charged on drawn funds or for the facility utilisation fee. While we note that there is an existing funding arrangement for recovery of interest on our under-collection of allowed revenues ('K' term), there are no arrangements in place for the interest cost of funding other cash out flows that make up the majority of our working capital provision. Even where this interest is currently applied, it is only at a point in time, and does not appropriately recognise the position at different times of the year.

⁵⁰ Assistance for Areas with High Distribution Costs scheme

- Funding only the arrangement, extension and commitment fees leaves the ESO exposed to fluctuating interest rates, as facility interest charges are linked to LIBOR. Based on our current WCF, a 1% increase in LIBOR could increase costs by £1.5m p.a. based on a modest level of facility usage.
- Furthermore, we have sized our WCF at a level that would protect against plausible but not extreme events. There is no recognition of any contingent capital that would be required should an extreme, high-impact, low-probability event occur that would require a short-term cash injection.

We welcome Ofgem's view that additional funding could be provided to remunerate residual risk. Although a WCF mitigates the majority of our liquidity risk, it does not address other risks that are directly linked to the revenue management role.

- It does not provide any remuneration for carrying out the revenue role, which no commercial organisation would accept. The RAV associated with our revenue management activities is a small part of the ESO's overall RAV; based on current Ofgem parameters we estimate that this provides a return of around £0.3m p.a. This does not provide a fair return for undertaking this role.
- It does not take into consideration that there is contingent capital that supports the securing of a WCF, over and above the tangible assets that comprise the RAV. It should be noted that the industry revenue management business activity does not have significant tangible assets underpinning it. In fact, the assets in relation to our revenue management role make up only 3% of the overall ESO RAV.

Stakeholders have also responded to Ofgem's previous consultations with the view that a RAV*WACC approach is unsuitable for the ESO. This additional funding should cover not only the revenue risks that remain un-remunerated if there is a pass-through mechanism for a WCF, but should also cover the additional risks discussed in our response to question 9 and in Appendix 1.

We understand that there are industry concerns over any behavioural incentive on the ESO to inflate pass-through costs, specifically in relation to balancing services, if any additional remuneration was to be mechanically linked to these costs. We equally do not want any perverse incentive to be built into our funding framework. We believe that these costs can be used to inform the calibration of any additional remuneration, but that any additional remuneration should be set with no direct link to the level of costs actually incurred. For example, the level of remuneration could be sized based on a percentage of historic levels of costs, but provided as a fixed allowance for the price control period.

We believe that if additional remuneration is included as set out in question 9, there is no need to pass through the cost of a WCF, which instead would be paid for out of this additional remuneration.

Other finance issues

Q14 Do you agree with adopting the same approach for the ESO to the other finance issues as was proposed in the SSMD Finance Annex for the networks?

The SSMD Finance Annex for the network companies covers a wide range of financial issues under the chapters of cost of debt, cost of equity, financeability, corporation tax, indexation of RAV and calculation of allowed return and other finance issues. We have interpreted this question as considering the items included in the 'Other finance issues' and 'Corporation tax' chapters of the SSMD.

Regulatory depreciation

We agree with Ofgem's framework principle of using economic asset lives as a basis for depreciating the RAV. The ESO tends to invest in assets with 5-10 years of useful economic life. This aligns well with the current regulatory depreciation period of seven years.

In addition, we see the concept of regulatory depreciation as being an important factor in ensuring that the cost of investment is borne by those parties who benefit from the use of the asset, in line with the principle of intergenerational fairness.

We recognise that regulatory depreciation periods can be used as a lever to support financeability, but we do not agree that depreciation periods should be adjusted at the expense of longer-term financeability. We therefore agree that regulatory depreciation periods should be considered in light of the above principles and RIIO-2 business plan submissions.

Capitalisation rates

We acknowledge Ofgem's plan to revisit capitalisation rates on business plan submission, and agree that this would be an appropriate timeframe to consider the impact of these on overall financeability.

We anticipate that capitalisation rates would continue to align to the principle of broadly reflecting the mix of capital and operating expenditure. We do not advocate using capitalisation rates as a tool to move revenues between price controls at the expense of longer-term financeability.

Notional gearing

We agree that it is too early in the process to decide on the level of notional gearing for the ESO, before business plans have been assessed and the overall price control package is known.

The SSMD sets out the working assumption of 60% notional gearing for networks. This is inconsistent with the working assumption set out for the ESO in this consultation document. We believe that a notional gearing of 55% is more appropriate for the asset-light ESO, and that a final position should be considered following business plan submission.

It should be noted that much of the ESO's debt may be in the form of short-term cash requirements. It is therefore important to ensure that the ESO's notional gearing is considered excluding working capital / timing impacts.

Equity issuance allowance

We support including mechanisms in the financial model to provide allowed revenue to compensate for the raising of notional equity for the ESO.

Pensions

We welcome Ofgem's ongoing commitment to the funding of established deficits in defined benefit pension schemes, as well as its confirmation that the next triennial review of the established deficit pension allowance will sit outside of the RIIO-2 price control review, due for completion in November 2020.

The network companies regulated under RIIO have symmetry of regulatory treatment for cash contributions to cover incremental pension deficits (i.e. pension deficits relating to the period after the established deficit cut-off date), and ongoing pension contributions for continuing service. Both costs go through totex. We assume Ofgem intends to retain this symmetry with both items continuing to be included in totex for the ESO, and therefore subject to pass-through treatment.

We acknowledge Ofgem's decision to treat admin and PPF costs as part of totex.

Directly remunerated services

The ESO does not currently undertake any major directly remunerated services; however, given the need for the ESO to be flexible, we suggest it would be prudent to retain a miscellaneous category for RIIO-2 that would allow for additional categories or services to be introduced, should the need arise.

Strategy on disposal of assets

We agree with the principle that profits resulting from the sale of assets completely funded under licence arrangements are in part returned to consumers, with incentivisation remaining for the company to dispose of assets where it is clear they are no longer required.

Tax allowances

During RIIO-1, a tax allowance was set based on the estimated tax costs of a notional, efficient company as a proxy for actual costs. Ofgem has indicated that it will continue to consider the three options put forward:

- Option A – notional allowance with added protections
- Option B – pass-through for payments to HMRC
- Option C – the 'double-lock': the lower of notional (Option A) and actual (Option B).

We refer Ofgem to our response to the Sector Specific Methodology consultation. We do not believe that the double-lock mechanism is appropriate for the ESO. The ESO is exposed to significant volatility in our taxable profits, predominantly as a result of our industry revenue management role, which impacts accounting revenues and taxable profits. Such a mechanism could leave the ESO inappropriately underfunded for tax if such timing is not taken into consideration.

Incentives questions

General comments

We agree with combining the ESO business plan and forward plan documents into a single business plan document going forward, given our two-year business planning cycle in RIIO-2.

We have a concern with the timescales for business plan creation, in that business plans are created significantly ahead of the period of time to which they apply; for example, business plans for 2021/23 are due to be finalised in December 2019. This concern is also applicable to metrics, for which targets would be set significantly in advance, without taking into account any developments and learning that might take place in the intervening years.

Given the importance of the business plan and metrics to the incentive scheme and financial reward, it would be helpful to have an opportunity to refresh the business plans and metrics the year before they take effect; for example, refreshing the 2021/23 business plans in December 2020, to ensure that they are stretching, reflect stakeholder priorities and the latest industry developments

We note that there remains significant uncertainty regarding how the incentive scheme would work, which means that our current assessment of the ESO's financeability is based on assumptions around incentives.

Roles framework

Q15 Do you have any views on our initial thinking for how the ESO roles framework should evolve?

We support Ofgem's intention to refine the ESO roles framework so that the roles are discrete and do not overlap. Distinct, well-defined roles will make it possible for the ESO to clearly set out our deliverables, and for stakeholders to track our progress against these deliverables. The current scheme is inherently subjective, and there is not a clear link between performance and reward; clear definitions of the roles and assessment criteria would go some way towards addressing this.

Distinct, well-defined roles would also facilitate a tailored approach to evaluation, recognising that different roles are suited to different measures of success. We support a framework that recognises the differing nature of the roles, and sets incentive arrangements with an appropriate mix of focusing more on metrics and more on evaluation, tailored to the different roles. We discuss this further in response to question 24.

We recognise that whole system thinking forms part of a wide range of activities: it is a consideration across short-term operations, market development, and long-term network development and planning. As such, we agree with amending the framework so that whole system thinking forms part of each of the other roles, rather than being its own distinct role. Leading the debate, which currently forms part of theme 4 for RIIO-2, could also be considered in a similar way.

For role 2, we support changing its name from "facilitating competitive markets" to "market development and procurement", recognising that competitive markets are relevant across all our roles. We understand that the scope of this role would not materially change.

Q16 Do you support the introduction of a defined set of ESO outcomes and impacts? If so, what should these outcomes and impacts be?

It is essential that we have clarity on how we will be assessed under the incentive framework, and how our performance translates into an incentive reward. The result of the 2018/19 incentive scheme was disappointing for us, and we do not believe that the small reward was reflective of the outcomes we had delivered during the year. Further, it did not reflect the feedback we had heard from our stakeholders, or the significant evidence we had provided to support the Performance Panel and Ofgem in their evaluation. It is not immediately clear how the proposed ESO outcomes and impacts fit into the existing framework, as we understand that they would not replace the existing evaluation criteria.

The proposed outcomes and impacts broadly represent a logical direction of travel for the ESO. However, it is worth noting that several of these impacts can also be influenced by other parties: for example, consumer bills are influenced by networks, market participants and government policy costs; and reliability is influenced by the network companies. The outcomes and impacts are not specific enough to be used to evaluate the ESO's performance, and it is not clear how they would replace the existing principles (particularly as there may be significant overlap between the outcomes). If the outcomes and impacts are to be used for performance evaluation, they should be supported by clear, agreed and unambiguous measures for the ESO to demonstrate what we have achieved.

The outcomes and impacts could be used by the ESO in setting the overall direction of our activities, and to pull together business plans for the future. In our RIIO-2 business plan we will also propose performance metrics to measure the value we deliver through the activities and outputs in our business plan. We would welcome clarity on how these performance metrics would interact with a further set of defined outcomes for the ESO.

However, for the 2021/23 business plan that is due to be submitted in December, it will not be possible for us to refer to the outcomes and impacts. Ofgem's decision on these consultation proposals is not expected until late October, meaning there will not be time for us to engage stakeholders on how they would like the outcomes and impacts to be reflected in our business plan ahead of submitting it.

Q17 Do you think any changes are needed to ESO's licence conditions in order to further clarify its baseline obligations?

The consultation refers to Standard Licence Condition C16 as underpinning the roles framework. C16 establishes the obligation to co-ordinate and direct the flow of electricity onto and over the NETS in an efficient, economic and co-ordinated manner. However, the wording in C16 that sets out what this obligation includes (but is not limited to) mainly relates to balancing services, rather than (for instance) the roles associated with markets and networks. C16 does not therefore underpin the entire roles framework. Other licence conditions broadly cover the scope of the ESO's ongoing activities, although these are not structured in the same way as the roles framework. For example, we would support the inclusion of obligations around whole system in the licence.

It is important to note that the roles framework and associated deliverables can be revised every time a new forward plan or business plan is created. We note that the current licence (Special Condition 4M) requires the establishment of a forward plan, whereas the RIIO-2 framework refers to the creation of a business plan on a two-year cycle that will remove the need for the forward plan. At the very least, it will be necessary to update the licence to reflect the new terminology, if it is envisaged that the creation of the business plan is to become a licence obligation.

Under the existing ESO incentive scheme, Ofgem has regard to non-licence based documents: the ESO Roles and Principles document, and the ESORI Arrangements Guidance document. This is a concern for us, and one that we raised when the scheme was introduced. The legal status of the Roles and Principles document as an expansion / expectation of the C16 licence condition obligations is unclear, whereas the licensee is obliged to comply with the ESORI Arrangements Guidance document as if it were a part of the licence, but in the absence of any meaningful rights of appeal in relation to the contents of that document. The result is a lack of clarity in relation to the ESO's ability to influence the contents of the documents and Ofgem's vires to have regard to the documents when assessing compliance with condition C16. We would continue to have concerns if this continues into RIIO-2, and would like future arrangements to be embedded into the licence as far as possible.

Given the consequences of non-compliance, all the ESO's baseline obligations should be clearly stated on the face of the licence or, if in separate documents that are expressed to form part of the licence, such documents should be subject to transparent and robust modification processes (such as those that currently apply to the Price Control Financial Instruments).

We would be happy to work with Ofgem to develop suitable licence drafting to better clarify our obligations.

Incentive scheme aims and scope

Q18 Do you agree the incentives scheme should be focussed on encouraging the ESO to provide an exceptional quality of service when delivering its price control funded activities? Do you agree with our initial views on what an exceptional quality of service would include?

We are concerned that the word "exceptional" is subjective and sets a very high bar. It tends to imply an extremely high quality of service, which would come at a high cost; we are concerned that this would not always be in the interests of consumers. It would be better to encourage the ESO to provide a high-quality service at an efficient cost, and to clarify how a high-quality service is defined. Otherwise, the concept of a high-quality service is too subjective, and does not give the ESO a clear indication of how its performance will be measured.

The ESO's primary objective should therefore be to provide a high quality of service to all consumers through taking actions that lead to lower energy bills, a safer and more reliable network, and reduced environmental impact. Providing a high-quality service to our customers and stakeholders is also important; this should lead to overall increased efficiency across the energy system, and any cost savings made by our customers should eventually be passed through to consumers.

The incentive scheme should focus on progress against deliverables. If the deliverables are expected to provide a net benefit to consumers, and have been delivered to time and quality, then this should form a good measure of the ESO's success.

Stakeholder engagement is a key part of our work when putting together our forward plan and business plan, and understanding how we can contribute to the better functioning of the industry as a whole. As such, stakeholder views will also be useful in forming a picture of our performance. However, there may be an inherent conflict between stakeholder and consumer priorities; something that satisfies the needs of all stakeholders may result in additional cost for consumers. Stakeholders may not agree on the best course of action for the ESO, given their own conflicting business priorities. This should be taken into consideration when determining the incentive reward.

Maximisation of consumer benefits is a good objective for the ESO, and where correctly measured is a good indication of our performance. The energy system is continuously evolving: by 2030, cleaner energy sources, along with emerging technologies such as battery storage and electric vehicles, will completely change society's relationship with energy. As such, past performance is not necessarily a good indicator of the performance expected today; this should be noted when developing metrics to measure our performance.

Scheme process

Q19 Do you agree with our proposal to align the length of the incentive scheme with the two-year business planning cycle?

In principle, we agree with aligning the length of the incentive scheme with the business planning cycle, so that each iteration of the incentive scheme can assess the ESO's performance against a business plan cycle. A two-year incentive scheme has benefits over a single-year scheme, providing stability and predictability, and reducing the regulatory burden.

Ofgem could consider making small changes at the one-year point, to allow for any changes that may lead to a drastic change in the ESO's role or deliverables, such as in government policy. These should be strictly limited in scope, otherwise they could undermine the advantages of a two-year incentive scheme.

Regular feedback from the Performance Panel provides a valuable opportunity for the ESO to assess how we are performing against the incentive scheme and act on any suggestions for improvement. As such, even if the length of the incentive scheme is changed to two years, we would prefer to hold a Performance Panel event every six months, with clear feedback being provided on where the panel considers the ESO is doing a good job and where improvements should be made.

We are keen to work with Ofgem to consider the appropriate timing of incentive payments across the two-year period.

Q20 Do you agree we should introduce the possibility of 'core' metrics for the ESO? And, do you have views on which areas of ESO performance we should consider for any core metrics?

Metrics should measure aspects of the ESO's activities that are within our control, and should drive behavioural changes that have a positive impact on consumers. Metrics should be designed collaboratively between the ESO, Ofgem and stakeholders. If Ofgem and the panel are satisfied that the chosen metrics are a good indication of performance, then the scheme could make a more direct link between metrics and incentive outcome.

We agree in principle with the concept of a "core" metric as a way of recognising those metrics that matter most to consumers. It would be helpful for Ofgem to clarify how differentiating between different types of metrics would translate into the methodology for determining an incentives reward or penalty.

Ofgem has proposed that core metrics could include balancing costs, network reliability, forecasting, stakeholder satisfaction and internal cost efficiency. We look at each of these in turn below.

- Balancing costs have a significant impact on overall energy bills and are highly relevant to consumers, so we agree that it is important to include a measure of balancing costs. Any such measure should take into account the difficulties in defining the counterfactual (giving that system operations are becoming increasingly complex), as well as the extent to which the ESO is able to influence balancing costs. In this context, we highlight our above comment that past performance is not always a good indicator of the performance expected today. System operation is reliant on wider energy policy, regulatory and investor decisions as well as real-time market participant behaviour, and our ability to influence across these needs to be given broad consideration. Where targets are set for metrics, these targets should take into account today's environment as well as historic performance.
- Network reliability is also important to consumers, and it is something we can affect as part of our planning and real-time operations. Many aspects of network reliability are strongly linked to the maintenance and operation of transmission assets; any metric should seek to differentiate between the roles of the ESO and the network companies.
- Energy forecasting is strongly linked to customer impacts, as without accurate forecasts balancing costs would be higher and would result in customers paying higher bills. More accurate forecasts allow market participants and the ESO to act efficiently and economically. Any forecasting metric should be based on elements where we can influence the outcome.
- Stakeholder views are very important and have shaped the ESO's activities to date. However, as we noted earlier, in some situations there may be a conflict between stakeholder and consumer priorities; this should be taken into account when designing an appropriate metric.
- Internal cost efficiency is important. Each of the cost areas in our RIIO-2 business plan has been tested for efficiency, either through cross-sector benchmarking, cost-benefit analysis or the application of an efficiency target. We are therefore confident that we will start RIIO-2 at the efficiency frontier. To ensure we keep pace with the frontier in RIIO-2, we have set ourselves a 1% efficiency stretch target on our ongoing and shared service operational costs.

A metric to measure internal cost efficiency could be difficult to design in a robust way, especially as there are limited comparators for some areas of the ESO's spending. Furthermore, it is not clear that this metric would add value given the robust testing and stakeholder scrutiny of the ESO's proposed costs for 2021/23, and that this process will be repeated when we put together our next business plan for 2023/25. We are also mindful of Ofgem's intention to focus the ESO's efforts on value creation rather than cost reduction through the removal of the totex efficiency incentive. We fully recognise that the ESO's costs are small compared to the overall value we can drive for consumers – in RIIO-2, our proposed new and transformational outputs alone will lead to a reduction of £4.80 on consumers' bills.

We consider efficiency further in our response to question 23.

We would welcome clarity on how these proposed metrics for the RIIO-2 period starting in 2021 interact with the process for developing our forward plan for the year starting in April 2020, which will also contain performance metrics.

Q21 Should there be financial incentive implications for the ESO as a consequence of the business plan assessment process?

We agree that the ESO should create an ambitious business plan in collaboration with Ofgem and stakeholders. For future business plans, Ofgem should set out its expectations of what constitutes a high-quality plan, which we would be able to incorporate into our activities when engaging with stakeholders to create the business plan. A business plan incentive would not be workable for the 2021/23 RIIO-2 business plan as Ofgem has not yet set out these expectations for the ESO, and our business plan is due for submission on 9 December 2019.

Furthermore, introducing the idea of this incentive just over three months before the final RIIO-2 business plan is due to be submitted creates considerable regulatory uncertainty. It introduces ambiguity over how the ESO's business plan will be used and assessed, and contradicts previous guidance published by Ofgem which stated that a business plan incentive would not apply to the ESO. It is not appropriate that a financial outcome is attached to our business plan effectively post-submission.

We agree that the ESO should provide high-quality and ambitious strategies, and short-term plans. We believe this should be achieved by co-creating these plans with stakeholders, including consumer groups.

From 2023, we agree that the introduction of a business plan incentive should be explored. However, we have some concerns around using this business plan incentive to set the size of the incentives pot:

- It would lead to a potential change to the size of the incentive pot every two years, which does not provide sufficient certainty from a financeability point of view over the longer term.
- A smaller incentive pot would lead to a weakened behavioural incentive; for incentives to drive the right behaviour, they must offer a financial reward that justifies the additional effort required to achieve it, and have a strong link between performance and reward.
- It is not clear whether a more ambitious plan, in leading to a larger incentive pot, would also lead to a larger maximum penalty. If this is the case, a risk-averse ESO may create a less ambitious plan as this would be better for overall financeability.
- If the incentive pot is low due to the plan being judged as low quality, there may be no incentive for the ESO to bring forward new or stretching deliverables or initiatives during the two-year price control period. There should be some scope for the ESO to be rewarded for introducing additional transformational or value-adding activities during the price control period, as this would encourage a constant focus on innovation and improvement.

A more mechanical business plan incentive could be introduced to encourage high-quality business plans every two years. We would like to understand more detail from Ofgem around how its proposal would work alongside the ex post evaluative incentive scheme, and discuss options to ensure high-quality business plans while continuing to drive the right behaviours from the ESO.

Evaluation approach

Q22 What if any changes might be needed to the incentives evaluation criteria?

In order for the incentive scheme to drive the right behaviours, it is important that the evaluation criteria are clear and specific, so that it is clear to the ESO and our stakeholders what represents good performance. Greater clarity would provide a strong incentive for the ESO to focus performance in the right areas.

We agree with the proposal to create a distinction between short-term activities such as balancing, where a higher focus on metrics is appropriate, and long-term activities such as those related to markets and networks, which are better suited to evaluation.

For consumer benefit, we support Ofgem’s proposal for the ESO to articulate consumer benefit only at the business plan stage, and then to assess consumer benefit by way of monitoring our delivery against our business plan and performance metrics. This would streamline the reporting process and reduce the burden on the Performance Panel. It is also important to recognise that it can be challenging to robustly quantify the consumer benefit associated with a given activity, as it is dependent on assumptions about other parties’ actions and the existence of a counterfactual. We support the merging of the “current” and “future” consumer benefit criteria, as they are closely linked and could be assessed together. This change could be introduced for the last year of the RIIO-1 incentive scheme.

We are pleased that Ofgem has recognised the potential for a conflict between stakeholder satisfaction and consumer benefit: that an initiative that satisfies all stakeholders may not necessarily be the best outcome for consumers. This potential conflict should be taken into consideration when evaluating our performance in both current and future incentive schemes.

Q23 How should we best include internal cost efficiency in the evaluation framework – should it be a performance metric or explicit criteria?

To develop our RIIO-2 business plan, we have conducted international and cross-sector benchmarking to ensure that our proposed costs are efficient. We have reduced our ongoing operational costs by £7m per year as a result of improved efficiency in RIIO-1, and our RIIO-2 costs reflect this ongoing saving. We also conducted a more granular benchmarking assessment of our IT and shared service costs, which has demonstrated that our business plan represents an efficient level of costs. Further, we are investing in innovation and process improvement, to ensure that we remain at the efficiency frontier throughout RIIO-2, and have committed to a 1% efficiency stretch target on our ongoing and shared service operational costs. We will provide further detail on this work in our October draft business plan.

We agree that efficiency is an important focus in any regulatory framework, and we want to ensure it is appropriately covered for the ESO. As set out in our answer to question 20, we see challenges in developing a robust metric around efficiency. We also want to ensure that incentives work alongside the funding model to drive the right behaviours from the ESO. An ex post framework with the expectation of cost disallowance risks driving a management focus on justification, rather than reduction, of costs. A further incentive measure of internal cost efficiency could exacerbate this impact. The combination of cost disallowance and an incentive penalty could lead to the ESO being penalised twice for a single item of expenditure where there is a difference of opinion between Ofgem, stakeholders and the ESO as to whether it is efficient. As such, it would be useful to have some guidance to clearly define how any disallowance would be applied, and how Ofgem see efficiency being considered in evaluating incentive performance.

The current efficiency check for Black Start is not a well-designed mechanism. Firstly, as an ex post assessment, it incentivises the justification rather than reduction of costs. Secondly, the lack of upside does not provide an incentive for the ESO to go beyond our licence obligation in seeking to secure efficient and economic contracts for Black Start. Given the value of Black Start contracts in recent years, it is expected that any incentive reward would be outweighed by the consumer savings that could result from more effective contracting. Including Black Start contracting within role 2 would go some way towards resolving this.

We note Ofgem's comment in para 4.45 in the consultation document that a pass-through funding approach will better encourage the ESO to take on new deliverables and activities. Our view is that several of Ofgem's proposals seem to discourage the ESO from being ambitious in this way; for example, an efficiency metric would have a similar effect on behaviours as the totex incentive mechanism, but without its clarity. The proposal for the incentive scheme to take into account deviations from business plan costs negates the certainty and flexibility provided by a pass-through funding model, and may drive risk-averse behaviour whereby the ESO simply delivers the activities in our business plan and justifies our costs.

We would like to understand further from Ofgem how it sees the consideration of efficiency in incentives working alongside the pass-through approach and cost disallowance mechanism that exist in our funding model. Stakeholders have consistently highlighted that a risk-averse ESO will not deliver our full potential for consumers.

Q24 Should we continue to evaluate the ESO's performance by role? If so, do you agree that we should we tailor the evaluation approach to each role?

We generally agree that, where an evaluative incentive scheme is used, it is sensible to evaluate the ESO's performance by role. The roles should be designed to avoid overlap; we agree that "whole system" should not be a standalone role as it features in many aspects of our activities.

We agree with tailoring the evaluation approach to each role. Short-term activities (such as balancing) are more suited to incentives with a higher focus on metrics, which have both an upside and a downside, and a formulaic relationship between performance and reward. Medium to long-term activities (such as those related to markets and networks) are more suited to evaluative incentives that are upside-only, as the existence of a penalty may drive risk-averse behaviour that does not benefit consumers. For medium to long-term activities, we agree that a focus on the quality and delivery of the ESO's strategy, along with robust engagement, would be a good basis for incentives, noting that the evaluation criteria would still need to be clearly set out upfront.

Q25 Do you think medium to longer term roles should have relatively more upside incentives focus than short term roles?

Yes, medium to longer-term roles should be upside-only, otherwise there is a risk that the incentive will drive overly risk-averse behaviour, which is not in consumers' interest. Many of the activities within these roles are transformational, and already go beyond what would be expected for a competent and efficient system operator. There is no rationale for penalising the ESO for non-delivery of activities which would be beyond efficient and competent system operation. Penalties are more suited to short-term or ongoing activities, where a higher focus on metrics can be applied.

Performance Panel

Q26 Do these arrangements give stakeholders the right platform to shape ESO activity and hold it to account for its performance?

In our view, the process of co-creating the forward plan / business plan in collaboration with stakeholders provides an opportunity for stakeholders to shape the ESO's activities. The current incentive and reporting arrangements have fostered a culture where we regularly seek stakeholder input and feedback, and the twice-yearly calls for evidence encourage stakeholders to give their views to Ofgem.

However, it is worth noting that seeking stakeholder feedback can give rise to negative bias; stakeholders are more likely to provide negative feedback reflecting improvements that they are seeking, rather than praise for processes that are working well.⁵¹ There is also a potential conflict between stakeholder satisfaction and consumer interest; if all stakeholders were satisfied, this would suggest that we are focusing our attention on meeting the needs of parties such as generators, TOs and suppliers, even where this may result in a higher overall cost to consumers.

Q27 Do you have any further suggestions for improving the existing ESO performance panel arrangements?

One area where there is scope for improvement is the assessment of stakeholder views. It is important to recognise the inherent negative bias that exists when providing feedback, as highlighted in our answer to question 26 above. Where negative comments are received, it is important to consider whether there is any conflict between stakeholder and consumer priorities in relation to this topic. Bearing in mind this natural negative skew, Ofgem should use its power to adjust the panel's scores to give a more accurate representation of the ESO's performance. Examples of where the ESO has acted on stakeholder feedback for the benefit of consumers may provide a better measure of our interaction with stakeholders, as this shows that we are listening to our stakeholders and making improvements where appropriate.

It is important for the panel to have a strong understanding of the ESO's activities, and be willing to spend time with the ESO outside of the performance evaluation process to evaluate our business, processes and challenges.

We believe it is worth taking a holistic view on whether Ofgem is the best party to chair the Performance Panel. Having Ofgem as chair of the panel, approver of the business plan and the ultimate decision-maker in the incentive scheme provides it with significant influence on the end-to-end process, which arguably risks devaluing the independent scrutiny that is sought from the Performance Panel. An alternative would be for a consumer group such as Citizens Advice to chair the panel, or for the role of chair to be rotated around the panel members.

Ofgem proposes that the panel members should scrutinise business plans in place of the RIIO-2 Challenge Group. We agree with this in principle; given this slight change of focus, it would be good to ensure that members have the appropriate skills and expertise to carry out this additional task.

The RIIO-2 Challenge Group also plays a role in challenging Ofgem, as well as the ESO and network companies, on the RIIO-2 proposals. If it is agreed that the Performance Panel should take on the Challenge Group's role, we propose that this responsibility is also transferred. The panel having a role in challenging Ofgem would strengthen the argument for an independent chair.

In addition, it has been useful to receive a clear consensus view in the Challenge Group's feedback. Going forward, we would be keen for this to continue when we receive feedback on our business plans, from either the Challenge Group or the Performance Panel.

It is important to consider the time commitment associated with membership of the RIIO-2 Challenge Group: feedback from a water industry user group suggests that the workload associated with overseeing both business plan development and ongoing activities is extensive, and it is difficult at times to fully commit to both activities. If the Performance Panel has two purposes, sufficient time must be allocated to both sets of activities.

⁵¹ "Evaluatively negative information is weighed more heavily than evaluatively positive information in the formation of overall evaluations", https://www.researchgate.net/publication/260900528_Positive-Negative_Asymmetry_in_Evaluations_The_Distinction_Between_Affective_and_Informational_Negativity_Effects

Priority areas

Q28 What if any changes should be prioritised and introduced early for the 2020/21 incentives framework?

We recognise that it may be overly complex to introduce significant changes to the 2020/21 framework at this stage. Nevertheless, we agree that it is worth considering whether any incremental improvements can be introduced. Any changes would need to be subject to stakeholder consultation later in the year, and be consistent with the direction of travel for RIIO-2.

One possible change would be for Ofgem to recognise that stakeholder feedback can give rise to the potential for negative bias and conflict with consumer interests, and calibrate the panel scores accordingly.

Some of the existing metrics could be improved to give a more accurate measure of the aspects of ESO performance that are within our control and that matter most to consumers. Stakeholder views on proposed changes to the suite of metrics are being sought as part of development of our RIIO-2 business plan, and we will seek stakeholders' views in the coming months to determine whether any of these metrics should be introduced earlier.

In terms of the performance evaluation criteria, it would be possible to merge the criteria relating to current and future consumer benefit, as they are inherently linked and may make it easier to evaluate our performance.

Appendix 1 – More detail on risks the ESO is exposed to

This appendix gives further detail in relation to our response to the additional remuneration section. Following our July consultation response, we have undertaken a further assessment of the risks the ESO is exposed to, using Ofgem’s process referred to in question 8 of the consultation. This is set out here.

Revenue risk

We do not believe that Ofgem’s proposal for a cost pass-through allowance for a working capital facility (WCF) provides fair remuneration for carrying out the industry revenue management role, with all its associated risks. The ESO is an asset-light business with an asset base of c.£230m,⁵² based on our current view of our RIIO-2 opening RAV; significantly less than the £4bn we transact annually in revenues. In particular, the revenue management role draws heavily on our intangible assets, such as our people skills and capabilities. The tangible RAV associated with the revenue management role relates to IT assets and provides a small return of around £0.3m p.a., which would not be sufficient in isolation to remunerate the numerous and substantial risks the we take on in the day-to-day role. These risks are discussed below.

Liquidity / cash flow risk

The cash flow risks managed by the ESO are many and varied, and are not only linked to the collection of TNUoS revenues on behalf of the Transmission Owners (TOs). Our main revenue timing risks are outlined below.

TNUoS billing and collection

Any differences between ex ante forecast recoverable revenue and ex post actual charges for use of the transmission system are borne by the ESO with recovery collected through customer billing two years hence (the ‘K’ term). Any changes in demand patterns or unexpected weather events can have a material impact on revenue collection. In the RIIO-1 period we have experienced demand driven under-collections of up to £70m p.a. A total exposure of £140m, covering the two-year exposure period, is therefore not an unreasonable level, with higher possible exposures.

Furthermore, the ESO is reliant on customers forecasting their own annual charges, which differ from ex post actuals, with recovery of any differences being settled two months after the end of the relevant charging year – so this shorter timing difference is not dealt with through the ‘K’ term. Customers can under-forecast by up to 20% before the ESO is able to intervene. In previous years, the cash flow risk to the ESO has been mitigated by significant embedded benefit payments being made to smaller embedded generators (<100MW) as part of the post charging year demand reconciliation process (estimated at around £370m). Any under-payments from suppliers were largely offset by the timing of the payment of benefits to embedded generators. Following the implementation of CUSC modifications (CMP264/CMP265), this benefit has been significantly reduced (phased implementation over three years to March 2021). As a result of this, the ESO has no mitigation to offset the cash flow risk of any under-payments from suppliers. A level of under-payment of 10% would see a negative cash flow impact of around £250m (based on 21/22 forecast allowed revenues), which would be borne by the ESO until final settlement of liabilities through the demand reconciliation process.

One further risk around TNUoS collection relates to generator related revenues, where an unexpected delay in a supplier becoming liable to TNUoS charging can result in an under-recovery of revenue. Based on our view of future projects that have consent or are commissioning in zones with high tariffs, we could expect a cash flow risk of up to £25m. This is sized as the impact of one major generator in a high tariff zone being delayed.

Terminations

In the case of a customer terminating a connection agreement, the ESO has an obligation to recover termination sums from the customer and to cover any costs incurred by the relevant TO. Any mismatch between these amounts is subject to a time lag of one year before being recovered via TNUoS charges. Our modelling of historic termination sum mismatches (much of which was borne by NGET prior to ESO separation) indicates that the exposure could be up to £75m. This is further evidenced by the recent termination of connections for the Moorside and Wylfa nuclear power plants.

Supplier failure

Many mechanisms exist to protect the ESO against financial exposure to customer failure, however there remains some risk to both working capital and the ultimate risk of unsecured bad debt. A proportion of bad debt would likely be recovered through the annual demand reconciliation process or via the insolvency

⁵² Expected RIIO-2 opening RAV

process, but this could take a number of years. Furthermore, there is currently no clear agreement on how any bad debt could be 'socialised'.

For a single major supplier default, assuming Ofgem would act quickly to appoint a Supplier of Last Resort to protect consumers, we would require the ability to manage the short-term impact. This could lead to a cash exposure of up to £100m (covering TNUoS and BSUoS liabilities). In addition, we continue to manage the much more frequent cash risk associated with smaller market participants becoming insolvent. Recent bad debt history suggests the cash requirement of managing smaller supplier defaults to be up to £20m.

Other short-term cash flow requirements

- Balancing Services costs are billed daily and aim to recover the costs incurred over each settlement period (each half hour period). Customers are billed and obliged to pay within 29 days of the settlement period. Each settlement period is reconciled, and any unbilled costs are recovered via a second billing cycle that occurs 14 months after the initial settlement period. Our historic cash position indicates a risk range of up to £63m. This is in part driven by an event in 2016, when additional Black Start contracts were entered into for the period April 2016 to March 2017 amounting to £113m. Since this gave rise to an increase in BSUoS costs to customers of around 10%, a decision was made to defer billing of the first six months of contracted costs until the final settlement billing, which deferred the recovery of cash for 14 months.
- The ESO has a role to recover revenues with respect to Assistance for Areas with High Electricity Distribution Costs (AAHEDC). Any short-term mismatch between the ex ante forecast and ex post realised costs is funded through ESO working capital.
- Any revenue related pass-through costs in excess of forecast (e.g. Ofgem Licence Fees, Inter-TSO compensation recovery) are funded through the ESO until recovered through future TNUoS charges two years later.
- Income adjusting events (IAE) as determined by Ofgem drive a timing difference between costs incurred and revenues collected.
- There are differences between the calculation and timing of site-specific connection charges from customers and obligations to make payments to the TOs.

Cost and size of the WCF

The amount of residual risk residing with the ESO in relation to the management of working capital will be dependent on the agreed mechanism for funding the WCF. A pass-through arrangement for the arrangement fees, extension fees and commitment fees leaves the ESO unremunerated for a number of risks, namely:

- Interest rate risk. The charges for use of our WCF are based on LIBOR. Any increase in the LIBOR rate would result in increased costs. For example, a 1% increase in LIBOR rates would result in an increase in costs of £1.5m based on a modest level of drawdown. It should be noted that, while the ESO's interest exposure is funded for certain revenue timing differences (primarily those that are collected via the licence 'K' term), the majority of our liquidity risk does not attract any funding to recognise the cost of capital employed until recoveries are made.
- Contingent capital. Securing a WCF requires underpinning by invested capital, including a sufficient equity buffer in order for such a facility to be procured in external markets. Remuneration should be provided to compensate for the equity buffer or any other contingent capital relating to the current size of the WCF.
- Cash flows in excess of the WCF. Funding needs to compensate for the liquidity risk that is not covered by the provision of a WCF. This further liquidity risk is driven by the potential for cash outflows, which are significant and unpredictable. Our risk modelling of revenue cash flows indicates that while we can expect a negative cash flow impact of c.£150m p.a., this could be substantially larger, with many of the risks extending across multiple years. Should the more extreme negative cash flows occur, there is a risk that the ESO would not have access to capital to cover any gap between a WCF and the required financing. The ability to access such additional funding at short notice would likely carry a cost premium, as well as impacting the ESO's credit rating and investor confidence.

Profit Volatility

The timing of revenue cash flows affects the ESO's accounting profits. This makes profits volatile and difficult to predict, and therefore provides little confidence to equity investors around the business's ability to distribute

returns through dividends. This volatility also affects debt investors or lenders, as the volatility may lead rating agencies to set higher targets for credit metrics.

Performance risk

This is linked to incentives. Any risk the ESO might be exposed to as a consequence of performance against incentives is unknown at this stage – the framework is still being designed, and Ofgem will propose the value and symmetry of the incentive scheme in Draft Determinations in Q2 next year.

As we come to understand the framework and the parameters, we and Ofgem will need to consider whether there is a need for additional remuneration.

Cost risk

The most significant risk in this category is the risk of ex post cost disallowance.

This is asymmetric and downside only, which is not typically covered in CAPM. It is partially mitigated through the ex ante agreement of our business plan. It could be mitigated further by implementing a cap on the disallowance, which we would like to explore with Ofgem. However, there will always be some risk for the ESO as disallowance is open to an ex-post judgement.

There is regulatory precedence for a disallowance being applied, as illustrated in the examples below.

Smart Data Communications Company (DCC)

Compared to the network companies, Smart DCC is a relatively close comparator to the ESO, in terms of:

- Size of organisation – headcount c.380, internal costs c.£61m
- Price control model – ex-post evaluative by Ofgem
- Industry role – central operational role plus facilitator of industry transformation
- Organisation maturity – relatively recently created, transitioning to steady state
- Small asset base, but significant skills and IT programme spend

Figure 1 shows DCC's incurred internal costs disallowance over the last three regulatory years.

Figure 9

Disallowance	RY 2017/18	RY 2016/17	RY 2015/16
Proposed	£2.34m	£1.75m	£0.7m
Final	£1.02m	£0.92m	£0.58m
% of cost base (proposed)	3.8%	4.2%	2%
% of cost base (final)	1.6%	2.2%	1.7%

There is also evidence that there is a non-zero risk of forecast cost disallowance, creating further operating uncertainty, financial planning risk and evidential burden, as shown by Figure 2.

Figure 10

Disallowance	RY 2017/18	RY 2016/17	RY 2015/16
Final	£132.5m	£67m	£79.5m
% of cost base (final)	28.1%	19.8%	27%

Black Start costs

In 2016, NGET requested recovery of £59m relating to the provision of Black Start services from Drax for 2016/17. This cost was in excess of the forecasted Balancing Services Incentive Scheme (BSIS) target for that year, as the model did not predict that a contract of this size would be required. Ofgem did not approve the income adjusting event, meaning the BSIS target was not moved, exposing us to a cost under the incentive scheme.

Other regulatory ex post cost assessment disallowance examples

These disallowances relate to major infrastructure programmes, but they can still be considered instructive as the ESO may face similar challenges that lead to disallowance, such as: a need to establish credible needs cases for major investments; a need to demonstrate efficient project management and procurement overheads; and a need to reflect a reasonable view of risk into budgets.

Figure 11

	Feeder 9	Burbo Bank	Milford Haven	St Fergus	Heathrow 2017
Final	£29m	£2.0m	£71m	£19m	£4m
% of cost base (final)	21%	1%	8%	25%	5%

Disallowances have typically been up to 25% of major projects. While the network companies invest substantial amounts of money, these are typically a small proportion of the underlying RAV of their businesses. A disallowance of 25% on an individual major project within our RIIO-2 portfolio has a much higher proportional effect on the ESO given its shorter asset life.

The risk of cost disallowance extends across both totex and balancing costs incurred in performing our role. While we agree that the regulator must have the ability to ensure costs are incurred efficiently in the interest of consumers, we highlight that the scope of costs subject to potential disallowance does not scale to the size of the ESO RAV and that many of the other risks in this list could lead to a cost disallowance; therefore, the risk of a disallowance increases as a result of many of our other risks.

Operational risk

This risk category is made up of events such as IT failures, stranded investments, gaps in workforce skills, management and operational errors and cyber security.

Some of these risks are covered in CAPM, but some are not, and all represent an asymmetric, downside-only risk to the ESO. They are mitigated to an extent by the pass-through of our costs, but all of them expose us to risk of disallowance, negative reputational impact, regulatory enforcement and legal action from system users.

Operational risks scale with the size of our costs rather than the RAV.

Reputational or political risk

We are exposed to significant reputational and political risk, and the nature of our central role in the energy system puts us at the forefront of any media coverage or industry debate, irrespective of our actions. We can mitigate this to an extent through our planning processes and our actions, but we are unable to control everything.

The power outage on 9 August and subsequent negative media coverage and industry debate is an example of the significant reputational risk we are exposed to. The Final Technical Report issued by the ESO on 6 September sets out conclusions, lessons learned and changes implemented by the ESO, but has not identified any breach of licence or standards by the ESO. Ofgem and industry investigations are currently ongoing. Any investigation of this nature requires significant resources from all affected parties, leading to additional costs.

This is a significant asymmetric risk, which is not typically covered in CAPM. It does not scale with the size of our costs or asset base.

Legal risk

We are exposed to the risk of challenge from third parties. This is asymmetric and downside only, which is not typically covered in CAPM. It has potentially significant costs associated with it that do not scale to our RAV; they scale with our totex and balancing costs, and with the revenues linked to our industry revenue management role.

An example of this is when SSE and EdF appealed to the CMA in 2017 against Ofgem's rejection of a Connection and Use of System code (CUSC) modification. The modification had sought to return up to £120m to generators due to an alleged breach of a European regulation by National Grid in the setting of 2015/16 TNUoS charges. The case was dismissed by the CMA, but if it had been successful, NGET would have been required to: repay generator charges for 2015/16; raise a CUSC modification to repay generator charges for 2014/15; and adjust TNUoS charges to recover these costs from suppliers. This would have had an impact on cash flow and 2017/18 results.

Legal risk can be mitigated to an extent by the pass-through of our costs, but any legal challenge would likely result in additional scrutiny for the ESO, including increased risk of cost disallowance, increased regulatory oversight, reputational damage and potentially an incentive penalty.

Regulatory risk

We are exposed to risk through the possibility of regulatory action and regulatory uncertainty.

With regard to regulatory action, Ofgem can fine the ESO up to 10% of the ESO's revenue,⁵³ an amount that is disproportionate to our level of return. As a standalone company, the ESO is not in a financial position to manage such a significant fine, should it be applied.

This is asymmetric and downside only, which is not typically covered in CAPM. The risk of both regulatory action and uncertainty can be mitigated to an extent through the two-year business planning cycle and through ESO engagement with stakeholders and Ofgem; however, there will always be an element of the risk that is out of our control.

⁵³ ESO revenue per its statutory accounts is expected to be in the region of £1.4bn

Appendix 2 – Consideration of Ofgem’s proposed metrics

This appendix considers each of the metrics proposed by Ofgem in the ESO Methodology Decision Document (ESOMDD), as referred to in question 10 of the consultation.

We believe that the ESO should be assessed using both debt and equity metrics and against a range of scenarios. The ESO anticipates the need for further equity injection during the RIIO-2 period making the review of equity financeability even more pertinent. We set out below our considerations in relation to each of the metrics suggested by Ofgem. We also propose some additional metrics that we believe would be beneficial to review as part of any financeability assessment.

Review of Ofgem suggested metrics

Figure 11

Metric	Ofgem view (as set out in the consultation)
CFO pre WC changes + interest / Interest	Is included in the Moody’s “Regulated Electric and Gas Utilities” rating methodology, which was used to initially rate NG ESO and is used to rate US ISOs
CFO pre WC / Debt	As above
CFO pre WC - dividends / Debt	As above
Debt / Capitalisation	As above

Since these ratios are the ones used by Moody’s in establishing the ESO’s rating, we agree that these should be considered. Moody’s has offered no rating guidance thresholds on these; however, we can use the analysis and arguments laid out in the ESO rating assessment as a benchmark. The existence of a WCF of an appropriate size, for example, is of critical importance to Moody’s.

One of the key limitations of the Cashflow From Operations (CFO) metrics used by Moody’s is that they assume that capex expenditure is, at least in part, discretionary and that organisations will prioritise payments to investors ahead of capex. Our short asset lives mean that we exhibit relatively high CFO; this, coupled with capex that is not particularly discretionary and capex that is trending above depreciation, shows metrics that may give an overly positive perspective.

Ofgem also suggested some additional ratios to be considered:

Figure 12

Metric	Ofgem view (as set out in the consultation)
Net Debt / RAV	Given the decision to remunerate the ESO via RAV*WACC this measure of gearing is relevant
Debt / EBITDA	Used in S&P’s rating of US ISOs and is a metric used for a wide range of business types
Adjusted Interest Coverage Ratio (AICR)	Used as an interest cover metric in assessing regulated networks
Opex / Total revenues	Provides a measure of operational gearing for comparability to other precedents
Opex / RAV	Provides a measure of operational gearing for comparability to other precedents
EBIT / K factor revenues	Provides a measure of significance of K factor revenue to profitability
RAV / K factor revenues	Provides a measure of significance of K factor revenue to RAV

The first three of these ratios are well established and understood, and we agree that these are worth considering.

The two opex ratios – Opex / Total revenues and Opex / RAV – are designed to provide a measure of operational gearing. As such, they provide useful information that can be used to illustrate the asset-light nature of the company, and to compare to precedents. In quoting ‘Opex / Total revenues’, it is important to consider the nature of the ESO’s revenue and how it is presented:

- Controllable revenue (approx. £0.2bn per year) – the portion recovered via BSUoS that is designed to cover the operating costs of the business, and is the focus of this price control. This number appears in the published revenue of the ESO.
- External balancing revenue (approx. £1.2bn per year) – ultimately collected by the ESO and paid to balancing providers. These are costs incurred in balancing the electricity system that are borne by market participants. This number appears in the published revenue of the ESO.
- TNUoS revenue (approx. £3bn per year) – amounts collected on behalf of Transmission Owners (TOs) and passed over to them. In this circumstance, the ESO acts as a collection agent only. This number does not appear in the published revenue of the ESO.

As a ratio that is designed to illustrate operational gearing, we suggest that the total revenues included should be limited to the controllable revenue described above. If this metric is being used in comparison with other organisations, consideration would need to be given to their revenue construction to ensure the appropriateness of the comparison.

Finally, the two ratios that include K factor revenues are not likely to be of any significant use on a forward-looking basis. K is the correction factor that applies to the ESO and allows for TNUoS amounts that were either under or over-collected in year, compared to the amounts passed over to TOs, to be socialised (currently two years later). K is only known after the close of the year to which it relates, and cannot be forecast (e.g. one of the factors it depends on is the severity of the winter compared to expectations at charge-setting around a year earlier). The historic number for K has fluctuated significantly from year to year and will give rise to very different ratio results depending on the year being considered. We believe that these two ratios may give interesting results at the close of each year, but since they provide no forward-looking information, we do not believe that they should form part of a financeability assessment.

We set out above that equity-based metrics should also be considered as part of any financeability assessment, and set out a number of metrics in our response to question 10 that we believe should be reviewed to support the testing of equity financeability.