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Our ref

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Date

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Dear Akshay,

Consultation on RIIO-2 Draft Determinations for Electricity and Gas Transmission (ET and GT) and Gas Distribution (GD)

I am writing on behalf of Western Power Distribution (South Wales) plc, Western Power Distribution (South West) plc, Western Power Distribution (East Midlands) plc and Western Power Distribution (West Midlands) plc. This letter and associated appendix set out Western Power Distribution's (WPD) full response to Ofgem's consultation of 9 July 2020 on the RIIO-2 Draft Determinations for ET, GT and GD.

Whilst all price control reviews are challenging, RIIO-2 comes at an exceptionally important point in time as it has been clearly identified that the UK needs to accelerate its efforts to achieve Net Zero whilst simultaneously managing the impacts of the on-going Covid-19 Pandemic.

Overall, WPD is concerned about the significant deviation from the largely successful RIIO-1 regime that can be observed throughout the Draft Determinations. RIIO-1 is an incentive based regulatory framework with clearly defined *ex-ante* targets that have spurred innovation and generated substantial efficiencies and service improvements to the benefit of consumers in both the short and long term. The ET, GT and GD Draft Determinations for RIIO-2 now looks more akin to 'rate of return' type of regulation with targets being set *ex post* and limited incentives to out-perform, thus stifling innovation and creating significant impediments for companies to adequately plan ahead. This is particularly striking as regards the changes made to incentive mechanisms and the increased use of uncertainty mechanisms.

Within the gas distribution and transmission sectors significant cuts are being proposed to the incentive mechanisms, both in form and application, which have been key to the success of RIIO-1. The revised Totex Incentive Mechanism (TIM), Output Delivered Incentives (ODI) and Business Plan Incentives (BPI) as proposed all provide more limited out performance potential, while the new Returns Adjustment Mechanisms (RAM) further dilutes incentives by reducing companies' returns if they are able to out-perform. The introduction of the Expected/Allowed Return

adjustment increases uncertainty for investors, which will further stifle the incentives for companies to make investments generally, and specifically those that are required to meet the Net Zero target, particularly over the course of a shorter five year price control period and given the substantial reduction in Ofgem's estimate of the cost of capital.

A recent First Economics report¹, which presented the results of interviews with 30+ former regulators on the question of "should regulators make an upfront deduction from the allowed return/allowed revenues in anticipation of company out- performance against expenditure allowances and output targets", clearly sets out that in a well calibrated price control, with the extensive range of tools available to the regulator to enable a judgement 'in the round' to be taken, such mechanisms are not required.

As regards the investments that would need to be made to achieve the Net Zero target, we appreciate that Ofgem is developing RIIO-2 against an environment of "known unknowns". However, we are concerned about whether the range of Uncertainty Mechanisms (UM) that Ofgem has incorporated into the Draft Determinations is the right way to go in the context of what is meant to be an incentive-based price control regime. Again, this leads to increased risk.

Our overriding concern is that these mechanisms push RIIO-2 away from a regime of *ex-ante* targets, with all the associated and valuable incentive properties and the ability to adequately plan and appropriately resource, towards one of *ex-post* regulatory decision making. Companies must have the flexibility to propose how to respond to uncertainties in near real time rather than being constrained to wait for triggering of Price Control Deliverables (PCD) or Re-openers to find out what costs they will be allowed to recover.

We believe Ofgem's use of Uncertainty Mechanisms has the unintended consequence of pushing the focus of RIIO-2 away from long term planning, to a short-term reactive regime, where costs are recovered only when these are sanctioned by the regulator. At that late stage companies will have less ability or incentive to influence the way in which the services provided by energy networks are delivered.

Whilst making quick and correct decisions is something that Ofgem would rightly aspire to, it does make the implicit assumption that the uncertainties at the time of setting the Draft Determinations will be resolved by the time of the reopener or the triggering a PCD. The reality is more likely to be that uncertainties will evolve and many will become more complex rather than resolve. In addition, ever more uncertainties (the "unknown unknowns") will appear over the horizon.

We would like to be assured that this doesn't lead to greater *ex-post* and short-term regulation, more reminiscent of a rate of return regime rather than the current successful incentive regulation. Rate of return regulation may manage the returns of companies in the price control period, but with the longer term risk of higher prices and poorer quality over time due to the removal of incentives for companies to innovate in order to reduce costs. Apart from the productive inefficiencies caused by greater reliance on UMs and re-openers, these also transfer

¹ <http://www.first-economics.com/earwakerfincham.pdf>

pricing volatility risks to consumers as prices will increase/fall as the mechanisms are triggered and phased out.

The focus on the short-term, without long-term commitment to critical projects in cost allowances, also stands at odds against the long-term nature of the Net Zero and Cyber Security objectives. If companies are to meet the requirements of a Net Zero economy and provide networks resilient to cyber-attacks, they must be in a position now to ensure they have access to the necessary resources and skills when they are required. In many cases hiring essential skills at short notice, or building up a capability at short notice, will not be an option - or if it is possible, given the scarcity of the skilled resources, will inevitably be more expensive for the company and ultimately for consumers.

Re-openers and Price Control Deliverables do have a place to play in some circumstances, but WPD's view is that the Draft Determinations for ET, GT and GD use them in an inflexible manner over which companies have little control (e.g. Ofgem will initiate most reopeners) and will therefore increase risk. This undermines an incentive regime, particularly where there are significant interactions between multiple elements of the price control, and creates more uncertainty. An enhancement for RIIO-1 to be incorporated in RIIO-2, would be a more fluid "adaptive regulation" where Ofgem works with companies and other stakeholders, including Customer Engagement Groups (CEGs), over the course of the price control to determine a long course for RIIO-3 and beyond.

WPD's view is that, RIIO-1 roughly achieved the right balance in terms of incentivising companies to find significant efficiencies whilst at the same time exceeding output delivery targets. These base line efficiencies and output targets can now be revised appropriately in RIIO-2 whilst maintaining the basic structure of the regime - particularly the setting of totex allowances largely for the whole period, the incentive rates of totex, and ranges for Output Delivered Incentives. By doing so, Ofgem will continue to be seen as a progressive and balanced regulator, utilising successful parts of previous regulation such as RIIO-1 and adapting forward regulation to meet the changing UK needs - continuing to deliver benefits to customers and wider stakeholders whilst moderating overall costs.

This would provide a stable backdrop for continuing engagement on the needs for RIIO-3 and beyond.

Yours sincerely,



Paul Branston
Regulatory & Government Affairs Manager

Enc: 04092020 WPD Executive Summary to RIIO2 GD&T Draft Determinations; and 04092020 WPD Appendix Question Responses to RIIO2 GD&T Draft Determinations.pdf

1 Introduction

- 1.1 WPD welcomes the opportunity to respond to the RIIO2 Draft Determinations for the Gas Distribution (GD), Gas Transmission (GT), Electricity Transmission (ET) and Electricity System Operator (ESO) sectors. Our response focuses on several areas where Ofgem should further reflect on its position and the robustness of its supporting evidence before making final determinations.
- 1.2 Our overall concern is that the Draft Determinations excessively focus on achieving short-term (within the 5-year period) price reductions at the expense of medium and long term benefits. An incentive based regime should deliver lasting benefits to consumers – including long term efficiency, sustained increases in service levels and quality, and investment in networks capable of delivering the infrastructure needed for a Net Zero economy. Ofgem's proposals risk the opposite.
- 1.3 Further, Ofgem has not made the case that there are fundamental short-comings associated with the existing RIIO regime that warrant radical surgery as opposed to fine tuning. WPD does not agree that there is any evidence that RIIO-1 has not worked well with the result that only minor adjustments are appropriate.
- 1.4 In addition, we have more specific concerns related to:
- (a) the lack of certainty around business plans due to Ofgem's excessive dependency on uncertainty mechanisms ("**UM**");
 - (b) the lack of robustness in the calibration of total expenditure (totex) and lack of justification for performance targets, whilst in large part ignoring business plans signed-off by the relevant Consumer Engagement Groups ("**CEG**");
 - (c) the misstating of (upside/downside) risk distribution faced by the companies and, as a result, the inappropriate Expected Return – Allowed Return ("**ER-AR**") adjustment;
 - (d) an overall miscalibration of the cost of capital, and with no recognition of the financeability challenge resulting from the lowered allowed return on equity.

2 Draft Determinations will not deliver an incentive regime

- 2.1 UK regulatory practice has shown the power of incentive regulation, such as RIIO, to further the interests of consumers across regulated sectors, including in energy networks. The following cornerstones are required for the regime to work:
- (a) companies are required to meet outputs at a fixed allowed totex and weighted average cost of capital ("**WACC**") and are incentivised to outperform as they can keep a share of the efficiency gains;

- (b) companies receive additional rewards for delivering services/outputs that incrementally further the interests of end-consumers;
- (c) At the end of each regulatory period, required outputs and totex allowances are reset, taking account of actual performance under the previous period. This ensures that improvements for which companies were rewarded are “baked into” Business as Usual (BAU) in all future price control periods and passed through to consumers.

2.2 **Incentive regulation** stands in sharp contrast to **rate of return regulation**, as shown in Table 1.

Table 1: Incentive Regulation vs. Rate of Return Regulation

Incentive Regulation	Rate of Return Regulation
Regulate price to give an expected return on investment equal to the investor’s cost of capital, given on track performance in output delivery and efficiency.	Regulate prices to keep actual return on investment within pre-determined limits set around WACC.
Return on investment focuses on the long term . Returns within each period depend on company performance, thereby rewarding efficiency and quality/output improvements, which will be baked into BAU in future price controls. Companies that underperform are penalised.	Return on investment focuses on the short term - achieving the WACC within each regulatory period. Actual return not strongly related to actual performance as deviation from benchmark is fully passed through to consumers.
Incentive structure aims to achieve long term efficiency by allowing companies to keep gains in the short term (within the current regulatory periods) but with gains “baked into” future regulatory reviews.	No incentive to achieve improvements across regulatory periods (which thereby encourages long term inefficiency).

2.3 The incentive regime of RIIO-1 has worked well for consumers. As summarised in Table 2, Ofgem’s 2018-19 Network Performance Reports show that, overall, all sectors apart from GT exceeded their totex targets and all exceeded other incentive targets. This allowed the companies to increase their Return on Regulated Equity (“**RoRE**”), while *also* generating cost savings for consumers through the totex sharing mechanism, and providing a lower cost base and more stretching targets for all future settlements.²

Table 2: RoRE impact of RIIO-1 (projected) operational performance

	ED	GD	ET	GT
Totex	0.9%	2.5%	1.6%	-1.0%
Other incentives	2.0%	0.8%	0.3%	0.3%

Source: Ofgem, regulatory_financial_performance_data_file-annex_to_riio-1_network_performance_summaries_2018-19.xlsx, sheet “RoRE by sector”

² Ofgem, regulatory_financial_performance_data_file-annex_to_riio-1_network_performance_summaries_2018-19.xlsx, sheet “RoRE by sector”

- 2.4 Instead of recognising the totex savings as a success, Ofgem interprets the outcome as showing that consumers overpaid in RIIO-1. This narrow interpretation is flawed. First, it does not address the proper counterfactual – a world in which companies would not have been incentivised to outperform to the same extent. Second, it ignores that the RIIO-1 outperformance will set the new baseline for RIIO-2, from which consumers will benefit in all future periods. Without the incentive for outperformance this lower revealed baseline would not be observed.
- 2.5 In terms of other incentive payments, all sectors have earned higher payments by exceeding service level targets from which consumers directly benefit:
- ED: a 2.0% incentive reward including: interruptions-related quality of service (1.4%), customer service (0.5%) and time to connect (0.1%);
 - GD: a 0.8% incentive reward including: customer satisfaction (0.3%) and environmental emissions (0.3%).
- 2.6 The important point is that these payments all reflect benefits to consumers which have been achieved, and which are unlikely to have been achieved (certainly to the same extent) without the incentives. Our concern is that the Draft Determinations represent a regression from incentive regulation, and the original intention of RIIO, directionally towards rate of return regulation.
- 2.7 In the context of the RIIO-ED2 Sector Specific Methodology Consultation Ofgem states that:
- "... the overall costs of the networks to consumers in RIIO-1 to date have turned out to be higher than they needed to be ... the majority of network companies across all sectors are earning returns towards the higher end of our expectations when the price controls were set."³*
- 2.8 Under incentive regulation, returns will be above the cost of capital when companies have outperformed their settlements. The quotation above suggests Ofgem is concerned about actual short term (within period) returns, at the expense of a long-term efficient incentive regime.
- 2.9 The specific measures in the Draft Determination that mark a backtrack against incentive regulation include:
- Under Business Plan Incentives ("**BPI**"), a small positive incentive was awarded to only one of the network companies (£1.6m to NGN⁴). This provides a clear signal that the potential payback from a well worked business plan is minimal. In particular, Stages 3 and 4, which focus on the "confidence" Ofgem has in cost forecasts, is largely beyond the control of the companies, and much more related to the type and

³ RIIO-ED2 Sector Specific Methodology Consultation (SSMC), Core Document, Paragraph 2.7.

⁴ Core Document, Table 15.

predictability of the costs in question. We question whether Stages 3 and 4 should be considered as "Business Plan Incentives".

- Significant use of ex-post Uncertainty Mechanisms⁵ ("**UM**"), such as re-openers and Price Control Deliverables ("**PCD**"), that limit the ability of companies to deliver efficiencies over the whole duration of the control period.
- Dampening of the Totex Incentive Mechanism ("**TIM**") rates range compared to RIIO-1. In the case of the GD companies these rates have reduced from 63-64% to just below 50% from RIIO-1 to Draft RIIO-2, and by similar amounts for the Electricity and Gas Transmission companies.
- the Return Adjustment Mechanism ("**RAM**"), as we have previously submitted (see our response to FQ18) limits rewards and penalties for exceptional out- or under-performance above or below the 3% tramlines.
- Introducing the "Expected Return – Allowed Return" ("**ER-AR**") adjustment based on outperformance in the previous regulatory period, effectively clawing back the last period's incentives.
- During the period, Output Delivered Incentives ("**ODI**") are subject to a cap and collar regime, limiting the potential up- and downside incentives, and individually are asymmetric within the limited reward range.

2.10 Table 3 shows the balance of upside and downside incentives under the BPI and ODI calculated by Ofgem in the Draft Determinations.

⁵ There are four main types of UMs that Ofgem proposes to use in the RIIO-2 price control: **volume drivers** to adjust allowances in line with actual volumes where the volume of certain types of work that will be required over the price control is uncertain (but where the cost of each unit is stable); **re-opener mechanisms** to decide within the price control period on additional allowances to deliver a project or activity once there is more certainty on the needs case, project scope or quantities, and costs; **pass-through mechanisms** to adjust allowance for costs incurred by the network companies that they have limited control over and that, in general, Ofgem considers the full cost should be recoverable, e.g. business rates; **indexation** to adjust allowance for costs that network companies have very limited control over such as general price inflation or interest rates.

Table 3: Upside/downside incentives

	BPI		Common ODI	
	Downside	Upside	Downside	Upside
Cadent	-0.00%	0.00%	-0.82%	0.41%
NGN	-0.00%	0.04%	-0.87%	0.44%
SGN	-0.01%	0.00%	-0.81%	0.41%
WWU	-0.00%	0.00%	-0.90%	0.45%
SHET	-0.39%	0.00%	-0.97%	0.21%
SPTL	-0.23%	0.00%	-1.05%	0.27%
NGET	-0.22%	0.00%	-1.07%	0.17%
NGGT	-0.18%	0.00%	-0.62%	0.51%
ESO	-0.00%	0.00%	-0.00%	0.00%

Source: Finance Annex, Tables 44-45.

- 2.11 Strong incentives were critical to the success of RIIO-1, yet Ofgem has significantly reduced them and – at least in their application (the downside percentages are all greater than the upside percentages) – introduced downwards asymmetry. WPD is concerned that this will undermine long-term efficiency to the detriment of consumers and that the asymmetry will increase companies’ cost of capital.

3 Lack of certainty around business plans

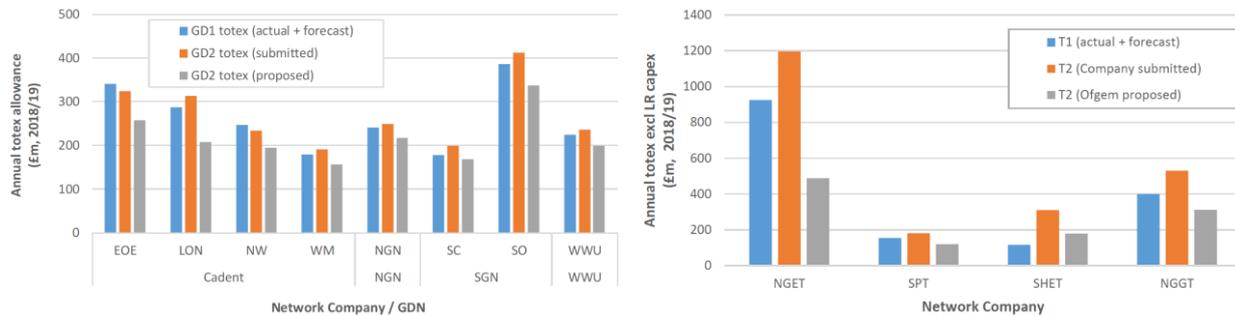
- 3.1 The Draft Determinations are a stark deviation from the largely successful RIIO-1 regime. RIIO-1 has clearly defined *ex-ante* targets that spurred innovation and generated substantial efficiencies and service improvements to the benefit of consumers in the short and long term. RIIO-2 appears to be a reversal to a framework more resembling rate of return regulation with targets being set *ex post*, thus stifling incentives and preventing companies from planning ahead. This reversal is particularly striking in the increased use of uncertainty mechanisms.
- 3.2 These mechanisms push RIIO-2 away from a regime of *ex-ante* targets towards one of *ex-post* regulatory decision making. Effectively this takes responsibility away from companies for the way that they themselves plan for uncertainty. Companies should have the flexibility to decide how to respond to uncertainties, rather than being constrained to wait for triggering of PCDs or Re-openers to find out what costs they will be allowed to recover.
- 3.3 One of the most striking features of the Draft Determinations is the limited share of allowed totex, as opposed to total potential totex that may be sanctioned at a later time under various UMs (such as re-openers) and PCDs. Such a move to *ex post* regulation has serious unintended consequences. Energy networks do not have a fully flexible cost

structure where inputs can be turned up or down at short notice as and when required. If Ofgem prevents companies from planning ahead, it will increase costs for consumers.

Dependency on Uncertainty Mechanisms

3.4 Ofgem has notably reduced the networks' total expenditure (totex) bids – particularly in respect of NG's ET and GT submissions. On average, totex is set 45% and 20% below companies' bids in the ET and GT, and GD respectively,⁶ as shown in Figure 1.

Figure 1: Totex allowances and company bids



Source: Core Document, Figures 3 and 4.

3.5 For GD, the totex reduction of 20% includes reducing the replacement capital expenditure (repex) programme where Ofgem determined that some investments were either discretionary or too uncertain with payback beyond 2037.⁷ For transmission, key drivers for totex reductions are:⁸

- (a) moving £1.4bn of submitted costs to UMs for when needs are clearer or plans are more mature;
- (b) removing £2.7bn as a result of the current lack of sufficient engineering justification for the volume of work.

3.6 Under the Draft Determinations around 50% of baseline allowances will be linked to either UMs or PCDs across all network sectors (GD, GT and ET),⁹ which will ultimately hinder the ability of companies to make long term resource plans and add to cost over the investment life cycle.

3.7 Forecasts provided as part of network company business plans indicate that additional funding of over £10bn could be sought across the transmission companies, which Ofgem expects to address through UMs¹⁰ - Ofgem's rationale being to delay investment until there is more certainty of need.

⁶ Core Document, paras. 5.10 and 5.12.

⁷ Core Document, para. 5.10.

⁸ Core Document, para. 5.12.

⁹ Core Document, para. 5.8.

¹⁰ Core Document, para. 5.11.

- 3.8 If this funding eventually becomes available, the overall costs will be higher as companies that have already relinquished resources will need to reacquire them, and more generally will find it difficult to plan efficiently during the period of uncertainty.
- 3.9 To our knowledge this situation is not replicated in any other regulated sector. The only other comparable example is Heathrow Airport where a proportion of “development capex” is triggered as and when a business case is agreed between stakeholders, but in that case development capex was only 12% of totex.¹¹
- 3.10 We explore two specific examples (Cyber Resilience and Electric Vehicle Infrastructure) where Ofgem’s use of UMs will be harmful below.

Cyber resilience

- 3.11 Ofgem appears to favour re-openers to deal with cyber resilience in information technology (“**IT**”) and operational technology (“**OT**”). In practice, companies are already incurring costs and need to retain the skills and capabilities they have for the whole of RIIO-2 and beyond, not least for compliance with the EU Security of Networks & Information Systems (“**NIS**”) Directive.¹² Uncertainty over totex allowances for these crucial functions will reduce the ability of companies to provide the needed level of resilience at the most efficient resource cost in the future (see our answers to Q16 and Q17).

Electric Vehicles

- 3.12 The additional costs of uncertain totex allowances will be acute during the RIIO-2 period and beyond because of the large investments required to move the UK towards a Net Zero economy. Investment in the infrastructure to support Electric Vehicles (“**EV**”) is a large component.
- 3.13 According to Government policy, no new petrol or diesel engine cars will be sold from 2032. To avoid an unsustainably ageing car fleet, rapid uptake is required in the coming years. However, the take-up of EVs is a “chicken and egg” problem – investments in infrastructure, including electricity networks, need to be made before demand will materialise.
- 3.14 Whilst this investment will be significant in the context of the ET determinations, the amounts of investment required will be even greater in the forthcoming ED determinations, and so establishing a common and consistent approach is important. Ofgem needs to carefully consider the correct volume drivers that should be directly related to the costs incurred by companies, e.g. MW connected rather than the number of charging stations (“**ECP**” – Electric Charging Point).

¹¹ Core capex was £2.0bn with the potential for an additional £0.9bn of development capex. The opex allowance for the period was unchanged at £4.9bn. See CAA, “Economic regulation at Heathrow from April 2014: final proposals”, CAP1103.

¹² Assuming provisions of the NIS Directive will continue to apply.

- 3.15 Without the predictability of known volume drivers under the control of companies (e.g. MW connected), resource planning becomes complex and incurs additional costs for contingencies.

4 Lack of robustness in totex and performance targets

- 4.1 We are concerned about the lack of robustness of Ofgem's totex and efficiency targets across all sectors covered by the Draft Determinations.

Ofgem's top-down approach devalues the work of the CEGs

- 4.2 WPD is supportive of Customer Engagement Groups (CEGs) and sees them having an important role during RIIO-2 to scrutinise the delivery of outputs and identify emerging consumer priorities – see our response to Q1 and Q2.
- 4.3 However, Ofgem's approach is at odds with the outcomes sought by CEGs. In fact, it appears that Ofgem has largely ignored the stakeholders' engagement process in its entirety by substituting its own plans (based essentially on a top-down calibration looking at past expenditure) for the bottom-up costing that was agreed with the CEGs.

Econometric benchmarking of totex and selection of 85th percentile

- 4.4 This top-down approach places considerable weight on the robustness of Ofgem's econometric models. However, we are concerned that several issues make the results potentially unreliable, and Ofgem should revisit its reliance on the results of these models.
- 4.5 The dataset used contains only 104 observations, based on a mixture of actual and business plan forecasts, for the eight GDNs. With so few datapoints, the estimates of the parameters in the models are likely to be imprecise, and more importantly the limited sample size – in particular only eight GDNs - calls into question the robustness of the results as to individual companies' efficiency.
- 4.6 It is important to note that there is no theoretical underpinning for the choice of the 85th (or any) percentile in the context of the ordinary least squares ("**OLS**") estimated regression models used by Ofgem. At best the model residuals only give relative efficiency scores.¹³ In OLS any choice of percentile is essentially arbitrary.
- 4.7 Given Ofgem's total dependence on "top-down" econometric models for GD, it is of concern that Ofgem has – without clear justification – selected an 85th percentile efficiency benchmark (an increase from the 75th percentile previously used in RIIO-GD1

¹³ If Ofgem wish to justify actual (as opposed to relative) efficiency scores it would need to rely on a Stochastic Frontier Regression (SFR) using a Maximum Likelihood (ML) estimation, where the model residuals are decomposed into model error and actual inefficiency. These models rely on very restrictive assumptions, but the fact that in this case the OLS, Generalised Least Squares (GLS) and Maximum Likelihood (ML) estimates give similar results suggests these assumptions may be valid.

and also used by Ofwat for PR19¹⁴). The lower the confidence in the robustness of the model (as regards both its specification and estimation), the lower should be the efficiency percentile to avoid penalising firms that may erroneously appear inefficient due only to modelling or data specification errors. With only eight networks, and four companies, the 85th percentile will be even more sensitive to an apparent outlying performance by one of the companies caused only by data or model specification issues and not representative of achievable efficiency across all companies.¹⁵

- 4.8 After reviewing econometric modelling of comparative efficiency between GD companies we have several detailed and technical questions and critiques around Ofgem's approach. There would be benefit in carrying out an independent review of the statistical robustness of the model estimation. This should focus on how reliable the estimations of the individual company efficiencies implied by the chosen model are and how sensitive the results are to small differences in model specifications or data adjustments used.
- 4.9 This is important not just in the context of the T & GD Draft Determinations, but also for Ofgem's forthcoming analysis for ED. Broadly there will be five areas of interest:
- Adjustments made to the "raw" totex data (e.g. exclusions, adjustments for factor costs), because it will be important to make sure that different licensees' data are strictly comparable;
 - The precise construction of the econometric dataset (e.g. the CSV – Composite Scale Variable cost driver);
 - The econometric estimation techniques used (e.g. Ordinary Least Squares regression vs. more advanced techniques such as Stochastic Frontier regressions);
 - Robustness of the model specification – are there alternative plausible specifications that may give different results? As we noted above in footnote 15, the functional form specification chosen with respect to the CSV is critically important for comparative efficiency measurements; The choice of the "efficient benchmark" (e.g. why Ofgem has now chosen the 85th percentile rather than the 75th percentile);
 - The way efficiency is defined and measured against the benchmark.
- 4.10 As we explain in our response to GD26, given the potential issues with the top-down econometric modelling, it is surprising that Ofgem is largely ignoring the detailed information that would only be available from a more disaggregated, "middle-up" approach, which would take account of potential substitution between different cost categories (e.g. opex vs. capex), or a true "bottom-up" analysis of efficient spending

¹⁴ Ofwat, PR19 Final Determinations, December 2019 (updated April 2020), pp.13.

¹⁵ In this context, it is concerning that the model fails the standard ReSET test of model functional form, which tests whether a linear functional form for the various explanatory variables is appropriate; see Ofgem "RIIO-GD2: Step-by-Step Guide to Cost Assessment", Table 3. In particular, using an inappropriate functional form with respect to the Composite Scale Variable will lead directly to incorrect relative efficiency measurements for any company whose scale deviates from the average.

levels across more individual spend items. At the very least, we would have expected Ofgem to perform a “triangulation” exercise between different approaches, so as to ensure that consistent results are derived.

Ongoing productivity assumptions

- 4.11 Ofgem is proposing to set an ongoing annual efficiency target of 1.2% for capex (capital expenditure) and repex (renewal expenditure), and 1.4% for opex (operating expenditure). These assumptions are the top end of the ranges proposed by CEPA for Ofgem,¹⁶ based on relevant sector trends.
- 4.12 By taking the top-end of the ranges, Ofgem is ignoring CEPA’s advice to give weight to both the Bank of England’s Total Factor Productivity (TFP) forecast, and the use of a Gross Output (GO) metric in conjunction with Value Added (VA), both of which point to more moderate assumptions.¹⁷ The ENA has commissioned a report from First Economics that highlights inconsistencies in the application of CEPA’s analysis mixing VA productivity assumptions to the whole output of companies.
- 4.13 Ofgem has chosen the top ends as it believes “not only are network companies less exposed to negative shocks, the lack of competitive pressure means they should be able to place greater management focus on driving high efficiency gains.”¹⁸
- 4.14 However, this justification does not withstand scrutiny. Energy networks have large fixed cost bases and the flexibility of their decision making in response to shocks is affected by regulatory constraints, which mean that they cannot act as many other companies would by, for example, reducing output or investment or raising prices. They may thus be more rather than less exposed to shocks than other companies. The argument of greater management focus on efficiency is perplexing – to turn the argument around it is highly implausible to argue that companies in competitive markets have lower productivity growth simply because they have larger sales or marketing functions. Even if companies in competitive sectors have additional base costs because of these functions there is no reason to suppose that their productivity growth will be lower.
- 4.15 There are also other reasons why Ofgem should consider moving towards the lower end of the CEPA efficiency ranges, such as the potential long-term impact of changes to working practices as a result of Covid-19. Given these factors, a mid-point estimate would be appropriate.
- 4.16 Finally, the additional 0.2% “impact of innovation funding”¹⁹ added by Ofgem to the KLEMS results lacks analytical rigour. CEPA argues:

¹⁶ CEPA suggested ranges of 0.5%-1.2% for capex and repex, and 0.7%-1.4% for opex. See Core Document para. 5.35.

¹⁷ CEPA, “RIIO-GD2 and T2: Cost Assessment – Frontier shift methodology paper”, May 2020, pp. 37 and Table 3.2.

¹⁸ Core Document, para. 5.42.

¹⁹ Core Document, para. 5.40-5.41.

"This type of regulated funding for innovation is not available to industries in competitive markets considered in the EU KLEMS analysis."²⁰

- 4.17 We disagree. In competitive markets, it is competition itself that drives firms to invest in R&D as cost reductions and innovation enable them to win market share and profits from their rivals – a competitive pressure that does not exist in regulated utilities, requiring measures such as Ofgem’s innovation incentive schemes to address the market failure to achieve the same result.
- 4.18 Further, neither Ofgem’s nor CEPA’s analyses attempt to disentangle how innovation expenditure leads to a cost reduction rather than other consumer value outcomes, nor how it avoids double counting the impact of innovation induced efficiencies already included in the KLEMS analysis.
- 4.19 It notable that CEPA concludes the adjustment should be “up to 2%”, whereas Ofgem adopts the 2% assumption.²¹ This is despite the fact that CEPA acknowledges that:

"However, we have not yet identified robust evidence for establishing a firm quantitative relationship between innovation funding in RIIO-1 and the scope for frontier efficiency improvements in the energy network sector."²²

Real Price Effects require greater statistical rigour

- 4.20 Our detailed comments on Ofgem’s Real Price Effect (“RPE”) allowance is given in our response to Q10. We have a concern that basing the GD indices on a notional cost structure may penalise companies that adopt a different, yet efficient, mix of inputs.
- 4.21 The indices appear to be based on a simple (and possibly arbitrary²³) causal allocation of indices to cost categories. An econometric analysis needs to be undertaken to statistically verify the robustness of the relationships. Further, Ofgem needs to take a forward looking approach and identify where significant developments in the industry may change cost structures in RIIO-2 relative to past periods (including the potential long term impact of changes to working practices as a result of Covid-19).
- 4.22 Ofgem should also factor into its Impact Assessment the consumer harm caused by pricing volatility of RPE risk being passed from companies to customers and its extensive use of uncertainty mechanisms – something that is currently missing.

5 Mis-stating of (upside/downside) risk distribution

- 5.1 The industry has already made extensive submissions to Ofgem on the proposed ER-AR adjustment. We maintain our objection (see our response to FQ10) especially in the light

²⁰ CEPA, “RIIO-GD2 and T2: Cost Assessment – Frontier shift methodology paper”, May 2020, pp. 19.

²¹ CEPA, “RIIO-GD2 and T2: Cost Assessment – Frontier shift methodology paper”, May 2020, pp. 25 and Table 3.2.

²² CEPA, “RIIO-GD2 and T2: Cost Assessment – Frontier shift methodology paper”, May 2020, pp. 22.

²³ For example, in Table 4 of the Core Document it seems unlikely that a 25% weight should be applied to each of the four categories of labour and material costs for the GD companies.

of Ofgem's current analysis, which largely calibrates the adjustment based on the actual outcomes observed in RIIO-1. Ofgem's quantification is based on historical totex data (Analysis 1), RIIO-1 data adjusted for RIIO-2 context (Analysis 2) and interpreting problematic market to asset ratio ("MAR") data (Analysis 3).

- 5.2 The RIIO-2 packages should aim to equate expected and allowed returns, making the proposed adjustment unnecessary. If anything, the asymmetric construction of ODIs (discussed in 2.10) make a downward adjustment even more inappropriate.
- 5.3 Ofgem should be aware that any outperformance in RIIO-1 associated with output incentives has a corresponding consumer benefit and so cannot and should not be classed as solely benefiting shareholders. At the very least, Ofgem should be excluding this element of outperformance from its ER-AR calibration.
- 5.4 We continue to note that Ofgem would be the only UK sectoral regulator to apply such an adjustment. Ofgem appears to have recognised this in Draft Determinations and so has introduced a further adjustment mechanism to re-instate the lost return should companies fail to outperform. However, this mechanism is problematic, because it eliminates incentives to improve performance in the 3.95% to 4.25% pre close-out RoRE range.

ER-AR adjustment

- 5.5 WPD urge Ofgem not to pursue this concept. We agree with the conclusions of the recent paper by John Earwaker and Nick Fincham:

*"It follows that modern-day regulators, with a toolkit that is brimming with modern-day regulatory weaponry, ought to have the self-belief that they are capable of making balanced, and well-justified choices when they calibrate price controls, including by challenging regulated companies to continually improve performance and by putting in place uncertainty mechanisms to deal with situations in which it is genuinely impossible to predict the future. The corollary is that it is also inappropriate for regulators to decide before a price review even begins that they will inevitably fail to set expenditure allowances and output targets in such a way as to set up a 'fair bet' (or equivalent)."*²⁴

- 5.6 The ENA has also commissioned research from Frontier Economics' that critiques Ofgem's proposed adjustments to the cost of capital to determine an allowed return. This includes: the nature of the so-called outperformance being company specific and not a general industry feature; confusion with the need to aim-up the cost of equity to reduce the risk of important investment not taking place, and a lack of clear distinction between justified and "unjustified" outperformance.
- 5.7 Whilst not accepting the principle of the AR-ER adjustment, if Ofgem is intent upon quantification of the supposed difference, there is other relevant and important *a priori* knowledge of RIIO-2 risks that would not be captured by the analyses:

²⁴ "Information asymmetry and the calibration of price controls", John Earwaker Nick Fincham August 2020.

- market implications of moves to Zero-Carbon;
- post Covid-19 social and economic factors, including higher likelihood of economic recession.

5.8 A forward-looking Monte Carlo analysis could feed in other *a priori* knowledge of the risks specific to RII02 and so should be undertaken by Ofgem before making the Final Determinations. Ofgem has acknowledged that a Monte Carlo analysis could be “a helpful contribution”.²⁵

6 Miscalibration of the cost of capital and financeability

New cost of debt index

- 6.1 Ofgem proposes to use the Iboxx Utilities (10year+) bond yield index for the cost of debt allowance. This change of index is significant and so needs to be fully understood for each sector to which it is applied.
- 6.2 We have a general concern over using a sector-specific index rather than a rating-specific index. If the rating of individual companies within the index changes, then the index may no longer be reflective of target energy network company ratings (see our response to FQ2).
- 6.3 In addition to how well the index fits the actual bond yields of energy sector companies, Ofgem needs to consider the potential problem of circularity if the same index were adopted by all UK economic regulators (energy, water, airports, air traffic control, telecoms), i.e. what proportion of the Iboxx Utility Index is not subject to economic regulation?
- 6.4 Finally, we note that NERA has done detailed analysis of the borrowing costs for energy network companies, including the carrying costs for maintaining sufficient liquidity within the businesses, new issue premium costs and the debt costs of hedging CPIH risk. All these costs have been either ignored or underestimated by Ofgem.

Cost of equity indexation

- 6.5 We also retain concern over Ofgem’s proposals for indexation of the cost of equity. It is not clear that the Total Market Return will be sufficiently correlated with the risk-free rate, or that the transfer of risk to customers resulting from indexation is justified.
- 6.6 In addition, Ofgem acknowledges the “difficulties estimating CPIH-real gilts using market data, as reflected in a recent HM Treasury consultation”.²⁶ This reduces the accuracy of the equity indexation methodology and requires Ofgem to potentially refine the calculation mid-period, see our response to FQ4.

²⁵ Finance Annex, para. 3.115.

²⁶ Finance Annex”, pp.32.

Cross-checks

- 6.7 Updated work on behalf of Oxera for the ENA demonstrates that Ofgem has in fact underestimated the cost of equity. Oxera's estimate of the cost of equity is in the range of 6.05-7.1%, taking account of more recent market data and appropriate company comparators for beta risk. Oxera also propose a cross-check using the asset return premium compared to the debt return premium to support its conclusions.
- 6.8 As regards Ofgem's so-called "cross-checks", none of these provide a robust basis to verify Ofgem's conclusions on the cost of equity. As Ofgem recognises, Market Asset Ratios (MAR) are dominated by investors' long-term expectations well beyond the next price control. Furthermore, transaction prices for privately held shares are affected by a control premium, or even a "winner's curse" in a bidding process, whilst MARs for publicly listed utility companies are volatile and premiums seen in the past have quickly disappeared.
- 6.9 Offshore Transmission Owner ("**OFTO**") bids are another source of Ofgem cross-check. We note that these are essentially lower risk projects - a single transmission build to a pre-determined specification. To the extent that these projects carry risk, that risk is highly project specific and will be fully diversified within much larger portfolios of investments, explaining the higher gearing and lower implied asset betas for these projects.²⁷ By contrast, an entire energy network that is subject to a much wider scope and complexity of economy-wide factors that could negatively affect return, represents a higher level of undiversifiable investor risk.
- 6.10 Much the same considerations would apply when looking at the returns on infrastructure funds – another of Ofgem's cross-checks. Ofgem needs to undertake a detailed analysis of the individual entities in which these funds invested to determine whether they are generally representative of UK energy networks, e.g. to what extent they are invested in projects that are essentially rate of return regulated (with consequentially lower risk and lower expected returns) rather than incentive regimes.
- 6.11 Another "cross check" deployed by Ofgem is projected rates of return used by investment managers when marketing financial products. Oxera's report for the ENA "Rates of return used by investment managers"²⁸ explains why Total Market Returns ("**TMR**") forecasts published by investment managers, and forecast assumptions prescribed by the FCA for the purposes of marketing retail financial products, will understate the expected market returns.
- 6.12 Finally, Ofgem adds a new cross-check of consistency with the Modigliani and Miller model. It is accepted in corporate finance theory that gearing will have an impact on WACC.²⁹ Whilst a "U" shaped relationship between gearing and WACC may be an acceptable hypothesis, a strictly increasing relationship is not. This discussion is

²⁷ Ofgem, "RIIO-2 Draft Determination – Finance Annex", 9th July 2020, para. 3.89.

²⁸ Oxera, "Rates of return used by investment managers", 6th March 2019.

²⁹ For example, see Brealey R. and Myers S. "Principles of Corporate Finance", 2nd edition, McGraw Hill; Figure 17.5.

interesting from a financial economic perspective, but it is difficult to see how it can be used to make reliable inferences on the cost of equity. It is possible that the cross-check is indicating weaknesses in the underlying assumptions of the Capital Asset Pricing Model (“CAPM”) or the formula used to convert between equity and asset betas, but to then infer that a particular cost of equity calculated by the CAPM to too low, too high or about right is unwise.

Financeability

- 6.13 Financeability is the most reliable and pragmatic cost of equity cross-check that Ofgem has at its disposal – but one that it chooses not to use. This metric should take centre stage in verifying the CAPM estimate, or at least determining where in the wide range of CAPM estimates the cost of equity should lie.
- 6.14 WPD remains of the view that Ofgem should fully consider its statutory duty to ensure the financing of licensees. Ofgem appears to regard a financeability test as a trigger for action by shareholders, rather than a critical cross check of whether the expected cost of equity is sufficient. We do not consider it appropriate that, when the outcome of Ofgem's financeability tests show insufficient headroom, the result is an expectation that shareholders will accept a lower dividend yield or provide a further equity injection. Rather this should be a flag to Ofgem that the cost of equity is incompatible with the financeability tests at the notional 60% debt gearing and needs reviewing (see our response to FQ7.)
- 6.15 We have an additional concern that the immediate switch from RPI to CPIH indexation will mask the true extent of any financeability issue by virtue of the short term cashflow benefit to companies that this switch will bring (see our response to FQ12).
- 6.16 We are also concerned that in view of the difficulties in forecasting CPIH, and any wedge against RPI, the transition to CPIH indexation will not be NPV-neutral (see our response to FQ21).

Responses to Ofgem’s specific consultation questions

- 6.17 Please refer to ‘04092020 WPD Appendix Question Responses to RII02 GD&T Draft Determinations.pdf’ for WPD’s response to the specific question posed by Ofgem in the Draft Determinations.