

**Orkney Transmission Project
Consultation on Final Needs Case and Delivery Model**

SCHEDULE 2

COMMENTARY ON DELIVERY MODEL

1. Executive Summary

- 1.1 Scottish Hydro Electric Transmission plc (***SHE Transmission***) welcomes the opportunity to respond to Ofgem's consultation on the final needs case and delivery model in respect of the Orkney transmission project published on 14 December 2018 (the ***Orkney Consultation***).
- 1.2 SHE Transmission considers that Ofgem's proposal to depart from the SWW mechanism for the Orkney project is wrong in principle and inconsistent with Ofgem's statutory duties (**Section A**):
- (a) Transmission projects under RIIO-T1 should be assessed under the SWW framework, which is the existing principled and effective approach under which all major projects under RIIO-T1 are delivered.
 - (b) Ofgem has no proper basis for cutting across SWW.
 - (c) Ofgem's purported 'competition caveat' justification is unsustainable.
 - (d) The Competition Proxy Model (***CPM***) is based on incorrect and inconsistent assumptions, as the competition conditions it seeks to replicate are unrealistic and incorrect.
- 1.3 Alongside these fundamental issues of principle, which preclude the application of the CPM to the Orkney project, Ofgem's analysis of the Orkney project contains serious errors. (**Section B**).
- 1.4 As set out below, and illustrated in Oxera's economic modelling at Appendix 2, Ofgem's cost benefit analysis contains significant errors that fatally undermine Ofgem's conclusions on the alleged customer benefits of the CPM. These relate in particular to: (i) the cost of capital expected under CPM, and (ii) the cost of capital under the RIIO counterfactual. When these errors are corrected in relation to the Orkney project, it is clear that CPM is likely to lead to a significant detriment for consumers.

- 1.5 SHE Transmission has made a number of submissions to Ofgem on the legality and appropriateness of proceeding with CPM in new transmission projects in principle, including:
- (a) SHE Transmission's letter of 22 January 2019 to Ofgem in relation to the CPM licence drafting workshop;
 - (b) SHE Transmission's response of 9 November 2018 to Ofgem's consultation on the commercial and regulatory framework for the SPV model and the supporting impact assessment, together with an annex of Oxera's review of Ofgem's impact assessment for the CPM and SPV models;
 - (c) SHE Transmission's response of 20 March 2018 to Ofgem's minded-to consultation on delivery model in respect of the Hinkley-Seabank project, together with Michael Fordham QC's critical analysis of Ofgem's 'competition' models; and
 - (d) SHE Transmission's response of 12 October 2017 to Ofgem's consultation on final needs case and potential delivery models in respect of the Hinkley-Seabank project.
- 1.6 SHE Transmission notes with regret that in the Orkney Consultation that Ofgem has not engaged with the serious issues of law and principle that SHE Transmission has previously raised in relation to the basis for the introduction of CPM. SHE Transmission maintains, but does not repeat, each of its previous submissions which are incorporated by reference into this response. SHE Transmission reserves the right to comment further in relation to the impact of these matters to the Orkney project should Ofgem make its position clear on these issues in due course.
- 1.7 This submission is supported by a critical analysis update by Michael Fordham QC (**Appendix 1**), economic modelling and analysis by Oxera Consulting LLP (**Oxera**) (**Appendix 2**), and SHE Transmission's response to the specific questions raised in the consultation (**Appendix 3**).

SECTION A: KEY PRINCIPLES

2. Transmission projects under RIIO-T1 should be assessed under the SWW framework

CPM is not a legally justifiable course

- 2.1 SHE Transmission has been clear in its previous consultation responses¹ that Ofgem's proposals on alternative delivery models for projects under RIIO-T1 are deeply flawed. SWW is the proper framework that must be applied in assessing any project under RIIO-T1, and from which Ofgem has no justification to depart.
- 2.2 CPM would breach the clear parameters of SHE Transmission's settled price control. It is an established feature of the SWW mechanism within the 'competition proxy' exercise of price control that arriving at the TO's adjusted allowed expenditure can carry with it no reopening of the financial parameters of the relevant price control. CPM by its nature frustrates the design, purpose and certainty of the price control settlement.
- 2.3 Ofgem is not entitled to decide a SWW price control adjustment for SHE Transmission's Orkney project, or indeed any other large new transmission project by reopening parameters for cost of capital, asset life value or TIM. Nor could it do so in the context of the Mid-Period Review. It would be no answer for Ofgem to say that the outcome of the price control could be lower if it did reopen the cost of capital, or asset life value, or TIM. Since it would not be open to Ofgem to apply or redesign SWW in a way which changed its key financial parameters, Ofgem cannot do what is in substance precisely that, under the label of competition proxy, acting to repackage the same outcome by giving it a different label.
- 2.4 Ofgem is right not to contend that it would be entitled to redesign SWW during the price control, with certain projects under SWW being the subject of a model of price control assessment involving the reopening of financial parameters like cost of capital. Ofgem is wrong to submit that its CPM route falls within the competition carve-out (or caveat) which it communicated in 2012 in putting the RIIO-T1 price controls in place. By no lawful, reasonable, proportionate or fair assessment can that position be sustained. (See paragraphs 2.16 to 2.18 below.)

SWW is the principled and effective approach under which major projects under RIIO-T1 are delivered

¹ SHE Transmission's response of 20 March 2018 to Ofgem's minded-to consultation on delivery model in respect of the Hinkley-Seabank project, together with Michael Fordham QC's critical analysis of Ofgem's 'competition' models.

- 2.5 As previously explained in response to Ofgem’s consultation on the delivery model for the Hinkley-Seabank project,² and emphasised in counsel’s updated critical analysis provided as Appendix 1, the RIIO framework already provides the ‘competition proxy’ price control mechanism where a TO is carrying out wider works. It was designed deliberately for that purpose and was imposed by Ofgem in the discharge of its statutory responsibilities to protect consumer interests. In the RIIO-T1 determination, Ofgem needed to decide what aspects of a large transmission infrastructure project were features involving ‘uncertainty’. Ofgem decided that those matters were to be the subject of re-evaluation during the price control through the SWW mechanism.
- 2.6 Ofgem also had to decide which parameters did not involve ‘uncertainty’ but called for stability and did not justify reopening. As Ofgem explained in its RIIO decision *A new way to regulate energy networks* (October 2010), uncertainty mechanisms “*would only be used where they provide protection to consumers against the uncertainties faced by Ofgem in determining the revenue to allow for the forthcoming control period*” and involved “*transparent principles*” to which Ofgem was going to “*commit*” (p.35). As the RIIO Handbook explained, uncertainty mechanisms need “*a clear rationale*” and need to involve “*simplicity and consistency*”.³ Ofgem therefore designed the SWW mechanism carefully after detailed consultation, identifying those parameters which needed to be reassessed for new large infrastructure projects and those financial parameters which did not. Applying that approach, Ofgem identified the financial parameters – foremost among which was the cost of capital – as being features which are not subject to reappraisal under the ‘uncertainty’ mechanism of SWW.
- 2.7 The “*financial parameters ... set out in Chapter 5*” which are applied under RIIO-T1 include the corporate finance parameters (p.32 Table 5.1): cost of equity at 7%; cost of debt annually indexed using 10-year trailing averages; and depreciation of 45 years on new assets. From a financeability perspective, these parameters are well-understood by investors. This previously determined area of regulatory stability is precisely where Ofgem now threatens to create considerable uncertainty. It does so in the name of an alleged ‘competition proxy’, consumer protection and efficient costs. However all of these are existing features of the current, carefully designed, price control arrangements which include SWW. Ofgem is therefore seeking to invoke

² *Critical analysis of Ofgem’s ‘competition’ models*, Appendix 2 to SHE Transmission’s response of 20 March 2018 to Ofgem’s minded-to consultation on delivery model in respect of the Hinkley-Seabank project (the **HSB Critical Analysis**).

³ RIIO Handbook, 4 October 2010, p.96.

a fictional competition process, the conduct of which would be unlawful, and whose necessary legislative design is unknown.⁴

- 2.8 Furthermore, the analysis and evidence presented by Ofgem in its assessment of consumer benefits⁵ fails to consider the impact of reopening the price control on consumers through an increase in the cost of capital. In Ofgem's own decision on the Mid-Period Review ('MPR') for RIIO-ED1, Ofgem undertook an Impact Assessment ('IA') for widening the areas of a price control that fall under the scope of an MPR. In doing so, Ofgem considered that any benefit to consumers of adjusting incentive targets or reducing company expenditure allowances ('totex') could be completely offset by an increase in the cost of equity of 0.5% (50 basis points or 'bps'). Ofgem also concluded that that *"Evidence from available academic literature and from other regulatory decisions, both in the UK and elsewhere, suggests that increases of such magnitude are not unlikely"*.⁶ Ofgem therefore concluded that it was best to maintain regulatory confidence at the expense of short-term benefits to consumers from widening the scope of the MPR. Ofgem has failed to consider this element in its IA or consumer benefits analysis of introducing CPM into RIIO-T1. Nor has it considered this issue in relation to the Orkney project.
- 2.9 Moreover, neither Ofgem, nor its advisers CEPA, even attempt to engage with the question of what, if anything, is wrong with SWW, or what it is that has caused Ofgem to decide that it is appropriate to depart from its previous determination or has caused SWW somehow to become unfit for purpose. CEPA itself made clear (see *Review of the RIIO Framework and RIIO-1 Performance* March 2018, p.139) that it was not stating or supporting any conclusion that SWW was an inappropriate mechanism. CEPA said in July 2018⁷ that *"Ofgem has not previously set out an approach for determining the cost of capital for a separable, new and high value onshore investment"*. That is untrue. The SWW mechanism is applicable to such investments, and the RIIO-T1 financial parameters are applicable. There was an express competition caveat (or exception) to SWW to allow for a competition process, pursuant to a framework to be developed. However that did not envisage, and did not provide any opening for, the approach of CPM. On the contrary, that was

⁴ See further Appendix 1, paragraph 23.

⁵ Ofgem – Orkney transmission project: Consultation on Final Needs Case and Delivery Model (14 December 2018), paras 2.33 ff; Ofgem – Impact Assessment on applying the Special Purpose Vehicle and Competitive Proxy model to future new, separable and high value project (14 September 2018), paras 5.1 ff.

⁶ Ofgem – Decision on a Mid-Period Review for RIIO-ED1 (30 April 2018), para 3.22.

⁷ *Review of Cost of Capital Ranges for New Assets for Ofgem's Networks Division* 27 July 2018 p.30.

a reference to the earlier proposed CATO alternative which is currently paused and not therefore available.⁸ Ofgem's approach cannot be justifiable when it has conspicuously failed to identify (and has not even asked the question whether there is) any issue or difficulty with the application of the SWW model.

- 2.10 SWW is pejoratively described by Ofgem as the 'do nothing' option.⁹ This could only be an apt description if Ofgem had first identified an issue or difficulty with its application. As explained above, neither Ofgem nor CEPA has attempted to do so. The correct characterisation is that SWW is the existing applicable mechanism, under which relevant costs are reassessed under an established methodology, and certain parameters are deliberately left stable and constant. That is what it means for the *"relevant incumbent TO"* to receive revenue for delivering the project *"in line with the prevailing price control arrangements"*.^{10,11}
- 2.11 The SWW mechanism is transparent and is demonstrably effective. Needs cases and project assessments under the SWW mechanism are submitted to Ofgem by the TOs during the current price control period for scrutiny, challenge and approval under a well-defined process developed as part of the RIIO-T1 price control settlement. Under this process, Ofgem has taken into account all relevant factors, including project drivers, technical and operational options, modelling assumptions, efficiency, costs and the allocation of project risks. Customers and other stakeholders were also encouraged to participate in the process. As a result, the SWW mechanism has facilitated the successful delivery – on time and within budget – of all major large transmission projects where SHE Transmission is the TO, with consumers benefiting from any efficiencies through the sharing factor (the Totex Incentive Mechanism) at the time those projects are closed out.

Ofgem has no proper basis for cutting across SWW

- 2.12 Introducing the CPM during the existing RIIO-T1 period would frustrate the design, purpose and certainty of the price control settlement by impermissibly reopening the financial parameters of the current price control settlement. Furthermore, Ofgem has

⁸ See further Appendix 1, paragraph 24.

⁹ Ofgem – Impact Assessment on applying the Special Purpose Vehicle and Competitive Proxy model to future new, separable and high value project (14 September 2018).

¹⁰ Ofgem – Impact Assessment on applying the Special Purpose Vehicle and Competitive Proxy model to future new, separable and high value project (14 September 2018), pp.2, 4.

¹¹ See further Appendix 1, paragraph 25.

a statutory duty to act in the best interests of consumers¹² and its RIIO-T1 determination, including the SWW mechanism, was made in accordance with that duty. The introduction of an alternative delivery model at this point in the current price control would contravene this duty and the principled application of the duty through the SWW mechanism. In particular:

- (a) Any consumer benefits attributed to the alternative delivery models, including the CPM, are not supported by the Ofgem and CEPA analysis and remain untested. On the contrary, both SHE Transmission and SP Transmission were “fast-tracked” by Ofgem on the basis of the business plans they had submitted during consultation of the present RIIO-T1 price control, and that Ofgem was satisfied that they represented good value for consumers.¹³
- (b) Ofgem fails to take proper account of the material impact on intergenerational equity transfer that CPM creates. In particular, any “benefits” to future consumers are, on Ofgem’s own case, very distant in time and uncertain, whereas the real disadvantages to current consumers arise in short order and are certain. This is particularly the case given that, even on Ofgem’s calculations, the level of potential savings from the CPM model are relatively small (and potentially negative, if comparing the midpoint of the CPM range to the high and low RIIO counterfactuals), as shown in Table 1 below.

2.13 Ofgem has also failed to justify its departure from the existing 45-year asset life approach, and the adoption of an assumed 25-year asset life under the proposed CPM. In particular:

- (a) The 45-year asset life approach was a conclusion that Ofgem reached after prolonged consultation in respect of both RIIO-T1 and RIIO-ED1.
- (b) The 25-year approach proposed under the CPM results in considerable intergenerational inequity. Even on the basis of its flawed assessment of

¹² Section 3A of the Electricity Act 1989 sets out that the principle objective of Ofgem in carrying out its functions under the Act is to protect the interest of existing and future consumers in relation to electricity conveyed by distribution systems or transmission systems.

¹³ Ofgem, when setting out its thinking on the role of competition during the consultation for the current price control period in Consultation document 48/11 of 31 March 2011, clearly stated its intention that it would “only choose to utilise [the competitive option] following consultation and the completion of [its] review of the business plans submitted by the transmission companies”, and that it would be “more likely to utilise the competitive approach it where [Ofgem has] concerns that the companies’ plans do not represent good value for consumers”.

alleged customer benefits, Ofgem recognises that *“there is a possibility that GB customers may pay marginally more, on average c.£500k, on an annual basis during the construction and 25-year operational period of the CPM relative to the 45 year RIIO counterfactual.”*¹⁴ The actual customer detriment is far greater, as discussed below.

- (c) This approach is also inconsistent with Ofgem’s position on asset life under RIIO-ED1, which was considered by the CMA in the British Gas Trading appeal.¹⁵ Ofgem decided to increase the asset life to 45 years for new assets from the beginning of RIIO-ED1.¹⁶ The CMA noted that *“the change in asset lives represented an intergenerational effect”*.¹⁷ The 45-year asset life was not called into question on appeal. However, Ofgem acknowledged that the transition to this new asset life could have financeability implications for individual DNOs.
- (d) Furthermore, Ofgem has failed to acknowledge or quantify the impact on Transmission Network Use of System (**TNUoS**) charges to developers from moving to a 25-year asset life, which is critical given the significant weight of TNUoS charges in a developer’s overall costs. This is particularly important for developers who are planning to compete for Contracts for Difference (**CfD**) in the upcoming auction.

2.14 Ofgem’s proposal would also seriously undermine certainty in the regulatory framework, which is vital for licensees, generators, customers and all relevant stakeholders including investors, particularly in the current uncertain investment climate. Certainty in the regulatory framework is particularly significant when it underpins the financing, construction and operation of new transmission assets as Ofgem has recognised (see paragraph 2.8 above). The need for regulatory certainty for all affected parties was recognised by Ofgem in the RIIO-T1 price control settlement for the eight-year period 2013-2021. This was the rationale for the introduction of the SWW uncertainty mechanism, which is subject to the same financial parameters as the broader price control.

¹⁴ Orkney Consultation, para 3.28.

¹⁵ *British Gas Trading Limited v The Gas and Electricity Markets Authority*, final determination of 29 September 2015, paras 7.1-7.58.

¹⁶ *British Gas Trading Limited v The Gas and Electricity Markets Authority*, final determination of 29 September 2015, para 7.8(b).

¹⁷ *British Gas Trading Limited v The Gas and Electricity Markets Authority*, final determination of 29 September 2015, para 7.7.

2.15 In addition, CPM is predicated on a non-recourse project finance basis that is inconsistent with SHE Transmission's current licence conditions, and therefore would not be financeable on a standalone basis. As a result, the underlying model assumed by Ofgem is inconsistent with either SHE Transmission's licence or with Ofgem's financeability duties. These concerns are evidenced by independent expert reports:

- (a) A Macquarie Research report assessed Ofgem's decision to set the cost of capital on the Hinkley-Seabank project on the basis of CPM. The report concluded that by *"forcing investors to take a return lower than required, there is a negative NPV consequence"*, which in turn would create financeability issues for the rest of the licenced activities.¹⁸
- (b) A Credit Suisse report reached a similar conclusion, noting that the real return achieved under CPM would be sub-WACC and cash-flow dilutive.¹⁹

Ofgem's "competition caveat" justification is unsustainable

2.16 Ofgem claims that there was a caveat at the time the RIIO-T1 price control was introduced in 2012 that any projects falling under SWW could be appropriate for *"delivery through a competitive delivery process"* for which it was then *"developing a framework to enable competition in electricity transmission"*, whereby *"SWW in RIIO FPs could be subject to that competitive process and therefore potentially delivered by a third party TO"*.

2.17 The "competitive delivery process" envisaged by Ofgem and incorporated into the RIIO-T1 settlement involved real, actual competition. The CPM involves no "competition" at all: it is merely an alternative methodology for arriving at a revenue allowance as a proxy for competition. However, this is the very nature of the existing price control mechanism, of which the SWW mechanism is an integral part. The CPM therefore does not represent any greater degree of "competition" than the existing SWW mechanism. The competitive delivery process as envisaged under RIIO-T1 clearly requires the development of a "framework" for competition, which would include *"third parties in delivery and ownership of large and separable projects, where this is expected to drive innovation, long-term value for money and/or more timely delivery"*. The CPM involves no such third party involvement.

2.18 Indeed the "competition" which Ofgem says it is seeking to "replicate" through CPM is one which could not lawfully take place, as the framework which would be

¹⁸ Macquarie Research – National Grid, Still our favourite UK utility (10 August 2018), p 16.

¹⁹ Credit Suisse Equity Research – National Grid Company Update, Competition Proxy a major issue facing NG (31 July 2018).

necessary does not exist. The CPM is merely a methodology for arriving at a revenue allowance as a proxy for competition, which is precisely what price control itself is, by its very nature.

3. The CPM is based on incorrect and inconsistent assumptions

- 3.1 In addition to the unlawfulness of departing from the settled SWW mechanism, as set out above, Ofgem's proposed CPM also suffers from clear and fundamental defects of principle.

The competition conditions that the CPM seeks to replicate are unrealistic and incorrect

- 3.2 The CPM suffers from various fundamental design defects. In particular, it is based on incorrect assumptions of competitive conditions which do not and cannot exist in reality.
- (a) The RIIO-T1 price control settlement requires Ofgem to take into account the actual circumstances of the relevant TO licensee delivering the project. Unlike the SWW mechanism, the CPM fails to do so by design, and instead makes broad assumptions about what *would* have resulted from *an efficient competition*, in order to identify supposed consumer benefits which are then sought to be replicated. Ofgem and CEPA have failed to explain what the supposed competition would look like, or on what basis the incumbent TO would then win that competition, with an allowance to be replicated in that TO's price control. As noted in paragraph 2.16 above, its hypothetical framework is at odds with SHE Transmission's current licence so by definition cannot be predicated on a theoretical competition that it could actually win.
 - (b) Moreover, in its application to the Orkney project, this issue is exacerbated by a cherry-picking approach to the relevant data. The rate of return under CPM is estimated under the assumption that the project would hypothetically be financed on a non-recourse basis. Under such a scenario the project would benefit from greater legal protection and clarity over risk allocation than will in practice be granted to the licenced TO. Without this level of legal protection and clarity of risk allocation, the project could not attain the level of gearing assumed by Ofgem in the CPM calculations whilst maintaining investment grade. The rate of return under CPM is therefore too low relative to the hypothetical project financed on a non-recourse basis.
- 3.3 As a result, the CPM is an exercise in artificiality, making broad and unrealistic assumptions about what *would* have resulted from an efficient competition, in order to hypothesise supposed consumer benefits which are then sought to be replicated.

The CPM uses the OFTO process as a competitive benchmark but ignores the real competitive dynamics and the reality of the TOs within that process.

4. SHE Transmission agrees that the CATO framework and the SPV model should not be used for the Orkney project, and questions the financial model applied to the Orkney project

- 4.1 SHE Transmission strongly objects to Ofgem’s suggestion that it can leave open the possibility of reviewing its position on the use of the CATO framework and the SPV model in the event of any change to the delivery date for the Orkney project. This approach is contrary to fundamental regulatory principles and undermines the regulatory certainty required for the financing and delivery of the project and the certainty of costs for CfD auction bidders, which in turn undermines the interests of consumers and other stakeholders.
- 4.2 As Ofgem acknowledges, enabling legislation is required before the CATO framework could be introduced. In the absence of any such legislation, there is currently no legal basis for Ofgem to introduce the proposed CATO framework, or any other alternative delivery model (such as the CPM or the SPV model) as explained above.
- 4.3 SHE Transmission disputes the assertion that the SPV model “*could, in principle represent the best overall value for GB consumers*”.²⁰ Even if the introduction of the SPV were permissible (which it is not), no cost benefit analysis has been undertaken by Ofgem for the Orkney project to support this assumption, and Ofgem’s development of the SPV model remains incomplete. SHE Transmission has recently submitted a substantial response to Ofgem’s 14 September 2018 consultation on the commercial and regulatory framework for the SPV model, raising serious concerns with this proposal,²¹ many of which were echoed by other respondents to the same consultation. SHE Transmission regrets that Ofgem has not engaged with any of the points previously made by SHE Transmission in this regard prior to issuing this consultation on the same flawed premises.

²⁰ Ofgem – Orkney transmission project: Consultation on Final Needs Case and Delivery Model (14 December 2018), para 3.10.

²¹ SHE Transmission’s response of 9 November 2018 to Ofgem’s consultation on the commercial and regulatory framework for the SPV model and the supporting impact assessment.

SECTION B: PRACTICAL APPLICATION TO THE ORKNEY PROJECT

5. Applying CPM to the Orkney Project would lead to consumer detriment

- 5.1 As described above, SHE Transmission fundamentally disagrees with Ofgem's proposal to use an alternative delivery model for the Orkney project. The use of any alternative model would be contrary to the interests of consumers and other stakeholders and thus contrary to Ofgem's statutory duties and therefore unlawful. In addition, and contrary to Ofgem's flawed analysis in the consultation documents, the application of the CPM to the Orkney project would result in significant customer detriment, as described in further detail below.
- 5.2 As a preliminary issue, SHE Transmission notes that Ofgem has failed to carry out a project-specific Impact Assessment (**IA**) for the Orkney project. Ofgem seeks to justify this on the basis that: (i) its analysis of the customer benefit of using CPM acts as an assessment of the impacts of the model; and (ii) the September 2018 IA assessed the impacts of the CPM across a range of different scenarios for varying number and capital value of projects.²² This approach gives rise to procedural unfairness to SHE Transmission, in particular as Ofgem has failed to take account of the previous criticisms of its September 2018 IA.²³ SHE Transmission therefore reiterates all of its previous criticisms of the CPM and reserves the right to comment further should Ofgem engage with its position in the future.
- 5.3 As SHE Transmission has previously submitted, Ofgem's September 2018 IA²⁴ contains a large number of material errors that fatally undermine its conclusions on the alleged customer benefits of the CPM.²⁵ When these errors are corrected, it is clear that CPM would in fact lead to no real benefit and is instead likely to lead to a significant detriment for consumers.²⁶ Appendix 2 sets out analysis by Oxera in relation to the Orkney project which corrects some of the more significant errors in

²² Orkney Consultation, para 3.20.

²³ SHE Transmission's response of 20 March 2018 to Ofgem's consultation on the commercial and regulatory framework for the SPV model and the supporting impact assessment, together with an annex of Oxera's review of Ofgem's impact assessment for CPM and SPV models.

²⁴ Ofgem – Impact Assessment on applying the Special Purpose Vehicle and Competitive Proxy model to future new, separable and high value project (14 September 2018), paras 5.1 ff.

²⁵ SHE Transmission's response of 9 November 2018 to Ofgem's consultation on the commercial and regulatory framework for the SPV model and the supporting impact assessment, together with an annex of Oxera's review of Ofgem's impact assessment for CPM and SPV models.

²⁶ Oxera – Review of Ofgem's Impact Assessment for CPM and SPV models, prepared for SHE Transmission (9 November 2018).

the assessment of customer benefits contained in the consultation and calculates the size of the likely consumer detriment once these errors are corrected. A summary of these (non-exhaustive) errors and their impact on the customer benefit analysis is set out below.

Errors in relation to the cost of capital

- 5.4 The cost of capital has been set incorrectly for various reasons, as Oxera²⁷ (and subsequently NERA)²⁸ have explained.
- 5.5 First, CEPA's estimate of the cost of debt (based on investment grade rated corporate bond indices) does not take account of forward curves for interest rates and relies solely on current spot rates to assess the CPM cost of debt. Based on Ofgem's methodology, the cost of debt would be set for the operational phase for each project when it reaches the end of the construction phase – for example, in 3-5 years' time (i.e. 2023 to 2024). The interest rate would be locked in for the duration of the 25 year operational phase using spot rates on iBoxx A and BBB indices. However, the Bank of England forward rate data is forecasting an increase in interest rates by 2024, which by this point will be higher than the rate assumed in Ofgem's RIIO counterfactual for the Orkney project.²⁹ Ofgem has therefore not reflected a reasonable set of assumptions for the cost of capital for CPM when undertaking its CBA.³⁰
- 5.6 If interest rates rise (in line with the Bank of England forecast), consumers will pay more under CPM than under the RIIO counterfactual. Ofgem is therefore inappropriately "gambling" on the outcome of interest rates in the future, putting the risk on consumers. In relation to the Orkney project, a one year delay would push the cost of debt at the start of the operational phase above the RIIO counterfactual even before taking into account SHE Transmission's company-specific cost of debt

²⁷ NERA – Review of Ofgem proposed WACC for Competition Proxy Model for delivering new onshore capacity investments, A report for SHET plc and SPT plc (October 2018).

²⁸ Ibid. This report is an updated version of the original report prepared in March 2018, taking into account minor changes made by CEPA – Review of Cost of Capital Ranges for New Assets For Ofgem's Networks Division (27 July 2018) with the conclusions remaining the same.

²⁹ Under RIIO, a 10-year trailing average cost of debt is used based on the same indices, i.e. iBoxx A and BBB indices, albeit SHE Transmission's cost of debt follows a weighted 10-year trailing average cost of debt mechanism to reflect its large capital investment programme which correlates with its debt book.

³⁰ Oxera – Review of Ofgem's Impact Assessment for CPM and SPV models, prepared for SHE Transmission (9 November 2018).

mechanism (as discussed below).³¹ This point alone is sufficient to demonstrate that it would be inappropriate to apply the CPM to the Orkney project.

- 5.7 Second, Ofgem has utilised the incorrect cost of debt mechanism for SHE Transmission. Ofgem has inappropriately relied on the cost of debt mechanism for the other TOs, resulting in an overstatement of the customer benefits under Ofgem's generic project sizes.³²
- 5.8 Third, Ofgem has not appropriately scaled the debt arrangement costs over the shorter construction period when assessing the alleged customer benefits. Ofgem has elected to spread the costs over the 25 year operational period. This approach is incorrect, as there would be separate arrangement fees incurred on the debt raised at the start of the construction phase, further reducing the consumer benefit.³³
- 5.9 Fourth, Ofgem has found that A rated bonds, or a blend of A and BBB rated bonds, are an appropriate benchmark. This is the result of an incorrect analysis of the bond issued by the Dudgeon OFTO, which Ofgem has taken as a reference point.³⁴ This bond is rated Baa1 by Moody's. However, it benefits from financial protections in place from third parties.³⁵ This is not an appropriate comparator for CPM, as these protections are not likely to be applicable. Ofgem's approach accordingly fails to follow the non-recourse project finance approach that Ofgem suggests should apply.³⁶
- 5.10 Fifth, an AICR of 0 (or 1) is significantly below guidance issued by Moody's as consistent with an investment grade rating.³⁷ The notional project finance structure

³¹ Appendix 2.

³² Appendix 2.

³³ NERA – Response to Ofgem's minded-to WACC position for the Hinkley-Seabank project (19 March 2018).

³⁴ Ofgem – Orkney transmission project: Consultation on Final Needs Case and Delivery Model (14 December 2018), para 3.18; Ofgem – Impact Assessment on applying the Special Purpose Vehicle and Competitive Proxy model to future new, separable and high value project (14 September 2018), para 2.12.

³⁵ Moody's Investor Service – Rating Action: Moody's assigns definitive Baa1 rating to TC Dudgeon OFTO plc's senior secured debt; stable outlook (30 October 2018). The article refers to a 'security package that benefits senior lenders'.

³⁶ Appendix 2.

³⁷ Moody's (2018), 'Moody's changes outlook to negative on Affinity Water, affirms ratings', 22 May; Moody's (2018), 'Moody's changes outlook to negative on Thames Water and Kemble, affirms ratings', 22 May.

would not support this mechanism during this period. Projects subject to other regulatory models have been rated no higher than BBB+ even when benefiting from significant regulatory protections such as revenue during construction, government underwriting and liquidity allowances, and capital expenditure reopener mechanisms. The liquidity profile of the Thames Tideway Tunnel (TTT) project would be an appropriate comparator but was not considered by Ofgem in its benchmark for relevant infrastructure projects. Accordingly, Ofgem's lack of regard to appropriate benchmarks has resulted in a debt cover ratio that would not support an investment grade credit rating.

Errors in relation to the operational gearing

- 5.11 The observed gearing range for OFTOs, as reported by CEPA, is 50-91%. The lower bound of the range is based on the TR2 OFTO for Lincs and the upper bound is based on the TR1 OFTO for Sheringham Shoal. Notwithstanding the wide range observed, Ofgem has advanced no reasoning for using a range at the upper bound. Further, OFTOs are stand-alone licensed projects with complex financing structures and these need to be examined more carefully than has apparently been undertaken for this consultation before drawing inferences for Orkney.³⁸ It is far from obvious that any of the OFTO projects cited are reasonable proxies for the Orkney project.

Errors in relation to the cost of equity

- 5.12 Ofgem has wrongly interpreted evidence from the OFTOs when setting the cost of equity. OFTOs are an inappropriate benchmark because the data is not visible or transparent. The most recent independently verified data available is from the National Audit Office (NAO) in 2012, which calculated a materially higher cost of equity than that proposed by Ofgem.³⁹

Errors in relation to the WACC

- 5.13 Ofgem's WACC estimate implies that the risk premium on the asset is below the risk premium on (lower-risk) debt instruments. This is inconsistent with basic finance theory that the risk premium on unlevered equity would be lower than the risk premium on debt of the same company. Equity as an asset class is higher risk than debt as equity holders rank behind debt holders, such that equity must earn a higher return than debt. Ofgem's assumption to the contrary wholly undermines the credibility of its assessment.

³⁸ CEPA (2018), 'Review of Cost of Capital Ranges for New Assets for Ofgem's Network Division', p. 57.

³⁹ National Audit Office – Offshore electricity transmission: a new model for delivering infrastructure (22 June 2012).

Errors in relation to the calculation of the RPI

- 5.14 Ofgem's calculation of the RPI is incorrect. Ofgem estimates RPI to be 3.0% for the construction phase (based on five-year breakeven inflation) and 3.0-3.4% during the operations phase. There is no reason to consider that inflation in the longer term would deviate from the Bank of England's target inflation rate of 2%. This results in a material understatement of the real cost of debt during the operations phase, and therefore overstates the customer benefit.⁴⁰

Further errors in Ofgem's assessment

- 5.15 Ofgem has used the Scottish TOs as a basis for the construction phase asset beta to input into the Capital Asset Pricing Model (**CAPM**). This is not appropriate given the differences between the Scottish TOs and the single asset entity assumed for the purposes of the CPM. The Scottish TOs contain a mixture of construction and operations risk. The Scottish TO asset beta is therefore lower than a credible lower bound for the CPM construction asset beta.
- 5.16 CPM is a new regulatory regime and has not yet been market tested to ascertain if project financing would be available. SHE Transmission has been informed by its lenders that the cost of debt would be materially higher for a standalone CPM entity unless regulatory protections were in place.⁴¹ Lenders would therefore require a premium which has not been taken into account in Ofgem's assessment. Ofgem presents no evidence that project finance would in fact be available for a CPM entity or on what terms (see also paragraph 2.16 above).
- 5.17 Furthermore, the Total Market Return (**TMR**) set during the construction phase does not consider a balanced view of available evidence. Ofgem relies too heavily on forward looking evidence and the usage of Dividend Growth Models ('DGM') that is extremely sensitive to inputs on growth rates and forecasts. Ofgem should be relying on what is observable over the long term as consistent with Dimson, Marsh and Staunton (2003) and other regulatory precedents. The Bank of England used a range of inputs to estimate TMR and calculated a materially higher TMR than Ofgem did over the same period.⁴² Ofgem also ignores the consistent academic literature that

⁴⁰ Appendix 2.

⁴¹ This evidence is internal to SHE Transmission and is based on discussions about the model with lenders.

⁴² Appendix 2.

demonstrates there is a strong negative relationship between the equity risk premium and the risk free rate.⁴³

6. Applying CPM to the Orkney project would create consumer detriment

- 6.1 Analysis of the shortcomings in Ofgem's assessment of the alleged customer benefit of adopting the CPM for the Orkney project can be found in Appendix 2, which sets out the results of Oxera's initial review of Ofgem's customer benefit analysis for the Orkney project.
- 6.2 Oxera identifies six areas in which the customer benefit analysis contains material errors and Table 1 below shows the cumulative impact of correcting for these.

Table 1: Corrected assessment of the customer benefits of applying CPM to the Orkney project (based on Ofgem framework)⁴⁴

	CPM net benefit under	
	Low scenario	High scenario
Ofgem assumptions (before corrections)	£12.1m	£25.9m
1. Using construction cost of debt as at August 2018	£11.9m	£25.5m
2. Using operational cost of debt as at August 2018	£9.4m	£25.1m
3. Using forward rates for CPM construction cost of debt	£9.2m	£25.2m
4. Using forward rates for CPM operations cost of debt	£-3.1m	£18.5m
5. Updating the RIIO-2 cost of equity	£-5.9m	£1.2m
Amended CPM net benefit	£-5.9m	£1.2m

Source: Oxera analysis, based on forward rate data from Thomson Reuters, Bank of England and Ofgem.

- 6.3 As is clear from Oxera's analysis above, far from giving rise to any consumer benefit, the application of the CPM to the Orkney project is highly likely to create consumer detriment compared with the existing SWW mechanism. Ofgem has therefore failed to demonstrate that the introduction of the CPM would be in the best interests of consumers. On the contrary, correcting for only some of the errors in Ofgem's assessment indicates a significant potential consumer detriment of up to £5.9m. In

⁴³ NERA – Review of Ofgem proposed WACC for Competition Proxy Model for delivering new onshore capacity investments, A report for SHET plc and SPT plc (October 2018), footnote 28.

⁴⁴ This table shows the cumulative effect of the changes on CPM net benefit. In this analysis, cost of equity under RIIO-2 is assumed to be fixed. The values are rounded to the nearest decimal.

these circumstances, adopting the CPM would breach Ofgem's statutory duty to act in the best interests of consumers⁴⁵ and would therefore be unlawful.

7. Conclusion

- 7.1 SHE Transmission therefore has significant concerns with the approach used by Ofgem in relation to the Orkney project. Ofgem's proposal to depart from the SWW mechanism is wrong in principle and breaches its statutory duties.
- 7.2 The proposal to apply the CPM specifically to Orkney also suffers from serious calculation errors. When corrected, the notion that the CPM would create customer benefit is entirely incorrect.
- 7.3 In these circumstances, it would be unlawful for Ofgem to introduce the CPM for the Orkney project. Ofgem should instead apply the proven SWW mechanism, as is the appropriate and correct delivery model under the RIIO-T1 price control.

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⁴⁵ Section 3A of the Electricity Act 1989 sets out that the principle objective of Ofgem in carrying out its functions under the Act is to protect the interest of existing and future consumers in relation to electricity conveyed by distribution systems or transmission systems.

APPENDIX 1

SSE CRITICAL ANALYSIS UPDATE

COMPETITION PROXY MODEL

By Michael Fordham QC for SHE Transmission

08 February 2019

1. The *Critical Analysis of Ofgem's 'Competition' Models* dated 20 March 2018 ("CA") explained why CPM and the SPV model are each a regulatory response which it would be unlawful – viewed against applicable legal standards of lawfulness, reasonableness, fairness and proportionality – for Ofgem to adopt (CA §40). It is unnecessary to repeat or paraphrase the contents of the CA, to which attention is invited, and alongside which this Update should be read.
2. The present position is that Ofgem is consulting on whether to adopt CPM for SSE's Orkney project. Any generic or project specific licence modification adopting CPM for Orkney (or any other project) will be appealable to the CMA. Ofgem has been informed by SSE, and agrees, that a CMA appeal is the appropriate forum to ventilate public law points. It is in the direction of the CMA that these issues are therefore headed, unless Ofgem decides to concentrate on operating the SWW regime according to its settled terms (CA §40). This Update focuses on CPM. Ofgem is not proposing to adopt the SPV model for Orkney, but the points remain intact as to the unlawfulness of the SPV model (CA §§32-39).
3. It has been explained (CA §29) that CPM would breach the clear parameters of settled price control, it being an established feature of the SWW mechanism within the 'competition proxy' exercise of price control, a mechanism recognised as protecting consumer interests, that arriving at the TO's adjusted allowed expenditure can carry with it no reopening of the financial parameters of the relevant price control. CPM by its nature frustrates the design, purpose and certainty of the price control settlement.
4. It has been explained how the point can straightforwardly be tested. The position is (CA §29) that Ofgem could not, in the name of its statutory duties, decide to arrive at a SWW price control adjustment for a TO's large new transmission project by reopening parameters for cost of capital, asset life value or TIM. Nor could it do so in the context of the Mid-Period Review. It would be no answer for Ofgem to say that the outcome of the price control could be lower if it did reopen the cost of capital, or asset life value, or TIM. So, a practical test (CA §42) posits the position in which Ofgem, in its recognised role

of evaluating the SWW adjusted allowed expenditure based on a project assessment as to efficiently incurred costs, announced a redesign of the SWW mechanism so that those financial parameters could be reopened. Since it would not be open to Ofgem to apply or redesign SWW in that way, Ofgem cannot do what is in substance precisely that, under the label of competition proxy (CA §29), acting to repackage the same outcome by giving it a different label (CA §42).

5. Ofgem's thinking and self-direction on this topic is now known. Ofgem considers that there was a relevant competition caveat expressed at the time when it made the RIIO-T1 arrangements in 2012. Ofgem relies on the fact that it made clear, at the time of making those arrangements, that any project which fell under SWW could be appropriate for delivery through a competitive process. Ofgem's logic is that, it having been communicated that competition could be invoked, there will have been a relevant general expectation of lower returns in such a situation. Ofgem's logic is that action falls within this known and expressed caveat in a case where – by reference to relevant criteria – there could have been a competitive process, even though there has not been one. Ofgem's final step is that it can, in such a situation, use a model to seek to replicate the outcome, for consumer/consumer protection and for efficient costs, as if there had been such a competitive process. Modelling such an outcome then gives Ofgem allowances which it can include in transmission licences. Because this is the competition caveat to SWW, the parameters of SWW are irrelevant and Ofgem can deal with all components of costs under its model, including reopening the approach of cost of capital, albeit that it could not and would not do so under SWW.
6. This thinking is most clearly exposed in a decision document issued by Ofgem on 30 July 2018 in the case of National Grid's Hinkley Seabank project, at page 17. Characterising the argument as being that "*implementation of CPM ... during the RIIO-T1 period constitutes an inappropriate reopening of the Price Control*", Ofgem says this:

Our views

2.7. As part of our RIIO-T1 final proposals, we confirmed that all SWW projects, such as HSB, could be considered for delivery through a competitive process.

2.8. Since the beginning of the RIIO-T1 period, we have seen the demonstrable savings that competition can bring to the delivery of electricity transmission infrastructure. The OFTO regime is estimated to have saved consumers in the region of £700m to date. This has revealed market evidence that was not available at the time the RIIO-T1 price control was finalised.

2.9. We accept that the CPM is, by its very nature, a proxy for the result of a full competition, rather than a full competition. However, as set out in paragraphs 1.21 and 2.1, we consider that there is clear consumer benefit in moving away from SWW arrangements under RIIO for projects such as HSB, which meet the criteria for competition. We therefore do not consider it to be appropriate that consumers should be exposed to additional costs in the delivery of HSB that are no longer reflective of the efficient rates available in the markets.

2.10. As part of our RIIO-T1 final proposals in 2012 and consistently since then, we have confirmed that all SWW projects, such as HSB, could be considered for delivery through a competitive process. As such, investors and the wider market have been aware that returns on delivery of new, separable and high value projects like HSB may be determined differently and may be lower than the returns set at RIIO-T1. We have also set a general expectation that returns are likely to be lower during the RIIO-2 period. We consider that the returns we intend to set for HSB are fair and reflective of efficient market rates. We therefore don't consider that wider consumer interests will be negatively impacted by our approach on HSB or to CPM and SPV models more generally.

7. It is appropriate to respond.
8. The starting-point is that Ofgem is correct to say that there was an express competition caveat (or exception) at the time of the RIIO-T1 arrangements being settled in 2012. Ofgem is also right to think that any Court or appellate authority will consider the points that have been advanced in the light of that caveat, in order to see whether Ofgem can sustain its position that CPM can be said to fall within that caveat. Ofgem has repeatedly referred to the competition caveat. At the start of its *Update on competition in onshore electricity transmission* (23 January 2018 p.2) Ofgem said "As part of our decision on the RIIO-T1 price control, we set out that projects brought to us under the SWW regime could be subject to competition". The same point is made in the Orkney consultation document (14 December 2018 p.9 §1.13), and in many more of Ofgem's documents.
9. It is important to be clear about what the competition caveat was and what it actually said. The *RIIO-T1: Final Proposals* for SSE were dated 23 April 2012 and consisted of an *Overview Document* ("OD") and *Supporting Document*. SSE as the TO was required to deliver "*wider works*", and those which were not within its "*baseline wider works*" were to be delivered using "*SWW arrangements*" (OD pp.20-21). The competition caveat was then described, as follows (OD p.21 fn 18):

We are currently developing a framework to enable competition in electricity transmission. For the avoidance of doubt, projects treated as strategic wider works in RIIO FPs could be subject to that competitive process and therefore potentially delivered by a third party TO.

10. Three features are immediately very clear about this competition caveat:

10.1 First, it involved a real, actual competition. That is why Ofgem spoke of *“competition in electricity transmission”* with *“works ... subject to [a] competitive process”*. That real, actual competition involves competing parties seeking to deliver the project, and doing so as TO. Such a competition would mean the incumbent TO competing with another bidder, or other bidders competing with each other. To have a competition, there would have to be at least one third party competitor, and there would have to be the prospect (if a third party won the competition) of having a third party TO. That is why Ofgem said *“subject to that competitive process and therefore potentially delivered by a third party TO”*. This ‘real competition’ point is made in the CA at §§17, 28.

10.2 Secondly, it would involve the putting in place of the necessary framework. That is why Ofgem explained that it was *“currently developing a framework to enable competition in electricity transmission”*. This is the point emphasised in the CA at §§18-20.

10.3 Thirdly, the pursuit by Ofgem of delivery through a competitive process would fall squarely within what Parliament described in section 3A(1B) of the 1989 Act, of Ofgem (discharging its functions to further the consumer protection objective by) *“promoting effective competition between persons engaged in, or in commercial activities connected with ... transmission ... of electricity”*. This is a point made in the CA at §17.

11. These were and are important features. The world of CATO involved such a competition. The world of OFTOs involves such competitions. Where there is such a competition, the incumbent TO would choose whether to participate, and if so on what basis to bid. It might win, or a third party might win the competition. If Ofgem were to act so as to subject a project to a competitive process, it would fall under section 3A(1B) of the 1989 Act (see above). What would emerge from the actual competition would be clear and concrete, involving real-world actual cost information becoming revealed (this point is made in the CA at §§17, 28).

12. The competition caveat was stated in the OD at p.9 §1.34:

For the avoidance of doubt, projects treated as Strategic Wider Works (SWW) in our RIIO Final Proposals could be subject to this competitive process and therefore potentially delivered by a third party TO.

What was meant by “*this competitive process*”, and why the OD spoke of a “*third party TO*” is very clear from the text within which this point was being made. In that text, Ofgem said this:

Implementing competition in onshore electricity transmission

1.33. As part of the RIIO strategy, we have been developing a framework to enable Ofgem to hold, in appropriate circumstances, a competitive process to award a TO the revenue stream needed to build, own and operate onshore electricity transmission assets. We set out our initial thoughts on aspects of this framework in consultations published in March and most recently in December 2011. We are continuing to develop the framework and our open letter published today provides an update on our plans.

1.34. It is our intention that this competitive framework could potentially be used to award the revenue stream for any wider reinforcement works for which construction funding has not been awarded to date and is not contained in the licensees’ RIIO-T1 baseline funding. For the avoidance of doubt, projects treated as Strategic Wider Works (SWW) in our RIIO Final Proposals could be subject to this competitive process and therefore potentially delivered by a third party TO. While the detailed arrangements for the competitive process are still being developed, TOs should be aware that they could be required to make relevant pre-construction outputs available to third parties as part of a selection process, and eventually such assets might be transferrable to the party selected to construct the assets.

This is the passage referred to in the CA at §14.

13. The “open letter” to which Ofgem was referring was a letter to all stakeholders entitled *Implementing competition in onshore electricity transmission: Update*. That letter also contained the competition caveat:

... projects treated as strategic wider works in our RIIO final proposals could be subject to competition.

What Ofgem was saying is clear from the *Update* read as whole. It said this:

Implementing competition in onshore electricity transmission: update

The next electricity transmission price control, commencing in April 2013, will be the first to reflect the new RIIO (revenue = incentives + innovation + outputs) model of regulation. As part of the RIIO strategy, we stated we would develop a framework to enable third parties to build, own and operate parts of the onshore electricity transmission system. This framework would provide the option to use competition where we felt that consumers would benefit from potential third party involvement in the construction and operation of new onshore electricity transmission assets.

In our consultations in March and December 2011, we set out why we consider electricity transmission to be the priority area in which to develop that greater third party role, and sought stakeholder views on our initial thoughts about how the regime might operate. We were encouraged by the expressions of support for our approach from a large number of stakeholders. We acknowledge that there were requests for more information about the potential benefits of a competitive approach in onshore electricity transmission and how our preferred model compares to other options for introducing competition.

We remain committed to introducing a greater role for third parties in onshore electricity transmission as part of the RIIO model. We recognise the importance of ensuring that the framework chosen has the potential to bring benefits to consumers and therefore wish to build in more time to examine these potential benefits further as part of the timeline for implementing the framework for competition in onshore transmission. At the same time, other areas, such as the development of enduring arrangements for offshore electricity transmission, may influence the development of our policy for competition in onshore electricity transmission.

Taking further time to consider these issues means that the framework to introduce competition in onshore electricity transmission would be put in place after April 2013. However we expect that, once the framework is in place, any project for which construction funding has not been awarded to date and is not in the licensees' RIIO-T1 baseline proposals could be subject to third party delivery. For the avoidance of doubt, projects treated as strategic wider works in our RIIO final proposals could be subject to competition.

14. The Supporting Document contained a detailed description of the SWW mechanism. It described the competition caveat in this way (p.58):

1.9. The SWW arrangements would operate alongside the framework for third party delivery of onshore transmission assets. We will be developing this framework over the coming months. We will take into account the interactions between the two frameworks, including the appropriate point at which we would assess whether a project is suitable for the competitive approach. This appendix sets out how we will treat construction projects that we determine to be appropriate for delivery by the incumbent TO under the SWW arrangements.

15. The same basic point arises out of Ofgem's comment in its Hinckley Seabank Impact Assessment (30 July 2018, p.48), that: "Investors will have been aware that during the RIIO-T1, projects that met the criteria for competition would not necessarily be funded through the RIIO price control". What investors, and all stakeholders, were aware of was that there could be competition, pursuant to a legal framework, pursuant to which decisions could be made as to participation and with concrete outcomes from those competitive processes. If and insofar as no such competition was applied, then SWW would govern and the financial parameters would not be reopened in setting the appropriate allowance.

16. The framework for competition in onshore transmission is very familiar. It emerged from very clear thinking. When Ofgem issued *RIIO: A new way to regulate energy networks* (October 2010) it set out its “RPI-X@20 conclusions”, describing the envisaged “option to include third parties in delivery and ownership of large and separable projects, where this is expected to drive innovation, long-term value for money and/or more timely delivery”. That was described as an “option to give licensed third parties the revenue rights and obligations associated with the delivery of large and separable network projects and ownership of associated assets”, through a “process that chooses third parties to assume responsibility for delivery”, with Ofgem “designing and running the selection process” in a way which would “build on policies and guidance developed in connection with the offshore tendering regime wherever possible” (p.34 §§6.20-6.21, 6.24).
17. The framework for competition had a six-year gestation before being paused, as it currently is. It is described in detail in the CA at §§14-21. It involved a competition (CA §14). It became known as CATO. It required a legislative framework. It was pursued, but eventually was paused. The pause was in circumstances where the necessary framework, and the substantive content of that framework, is known to be needed and does not exist. That means, in the absence of that framework: (1) there could be no lawful competition; and (2) since the design of that framework is not known it is impossible to postulate what its features and parameters would be.
18. As has been seen, Ofgem’s attempts to invoke the competition caveat are misguided. Ofgem has taken part of a statement, and ignored the way it was actually being described. The problems with Ofgem’s reasoning include the following:
 - 18.1 The competition caveat which Ofgem expressed at the time of the RIIO-T1 arrangements is plainly inapplicable. CPM is not competition in the delivery of transmission infrastructure, or competition in electricity transmission.
 - 18.2 Indeed, the ‘competition’ which Ofgem says it is seeking to ‘replicate’ through CPM is one which could not lawfully take place. The framework which would be necessary does not exist. CATO was paused and has not been progressed, precisely because legislation is needed.
 - 18.3 CPM is, when all said and done, a methodology for arriving at a revenue allowance as a proxy for competition. But price control is itself, by its nature, a proxy for competition. This has been made very clear. Ofgem gives no answer to it. It is a point resoundingly made by DECC in 2016

(CA at §12), but it is found elsewhere for example in DECC's July 2011 *Ofgem Review Final Report* which explains how regulators use their powers "to ensure that consumer benefits that would otherwise arise from competition are delivered" and to "replicate as far as possible the outcome of competitive markets" (pp.9-10). That is the very nature of price control, including SWW within RIIO-T1.

19. There are a host of further, serious difficulties with the road down which Ofgem has been going. It is an exercise in speculation and hypothesis. It lacks clear answers to even the most basic of questions: (i) what was the framework designing the nature of this hypothetical competition; (ii) on what basis did the incumbent TO, and others, compete within it; (iii) is the hypothesis that the incumbent TO has won the competition, or that some third party has won it; (iv) how can OFTO examples constitute a reliable benchmarking example when those are situations necessarily involving new third party TOs?
20. To make broad assumptions about what *would* have resulted from *an efficient competition*, in order to identify supposed consumer benefits which are then sought to be replicated, is an exercise in artificiality. Ofgem and CEPA do not explain what the supposed competition would look like, or on what basis it is said that the incumbent TO would then win that competition, with an allowance now to be replicated in that TO's price control. To take just one straightforward example, CEPA says "*the OFTO assets are a natural benchmark against which to assess the required cost of capital for operating new electricity transmission assets*", with which it then distinguishes "*evidence from onshore networks*" as being "*harder to interpret, as those networks have differing blends of construction and operations, have large portfolios of existing assets, and operate under a different regulatory regime*" (23 January 2018 p.27). The OFTO example necessarily involves a third party bidding under a competition designed pursuant to regulations under section 6C of the 1989 Act. The incumbent TOs necessarily have their "*blends of construction and operations, have large portfolios of existing assets, and operate under a different regulatory regime*". It is an exercise in utter fiction to put the reality of the TOs to one side, posit an OFTO-type tendering exercise, identify a consumer-protection outcome, and then impose it on the incumbent TO.
21. As was explained in the CA, the RIIO framework provides the 'competition proxy' price control mechanism, where the incumbent TO is dealing with wider works. It has a deliberate design, imposed by Ofgem in the discharge of its statutory responsibilities to protect consumer interests. The design of that SWW mechanism was very deliberate. Ofgem had to decide what aspects of a large transmission infrastructure project were features involving 'uncertainty'. Those matters were to be the subject of re-evaluation during the price control.

Ofgem also had to decide which parameters did not involve ‘uncertainty’, but called for stability and did not justify reopening. As Ofgem explained in *RIIO: A new way to regulate energy networks* (October 2010), uncertainty mechanisms “would only be used where they provide protection to consumers against the uncertainties faced by Ofgem in determining the revenue to allow for the forthcoming control period and involved “transparent principles” to which Ofgem was going to “commit” (p.35). As the *RIIO Handbook* explained (4 October 2010 p.96), uncertainty mechanisms need “a clear rationale” and need to involve “simplicity and consistency”. As explained in the CA at §§7-11, Ofgem designed the SWW mechanism carefully, identifying those parameters which needed to be reassessed for new large infrastructure projects and those financial parameters which did not. Applying that approach, Ofgem identified the financial parameters – foremost among which was the cost of capital – as being features which did not warrant reappraisal under the ‘uncertainty’ mechanism of SWW.

22. Ofgem explained it in this way in the *Final Proposals* documents dated 23 April 2012 (*Supporting Document* p.58 §1.7): “The SWW arrangements are designed to ensure value for money for customers and timely funding of the construction and opex costs associated with SWW outputs that are needed to meet customer requirements of additional transmission capacity”. Part of that design was that (p.58 §1.5): “The same financial parameters for their overall price control package (set out in Chapter 5) will apply to projects approved under SWW during RIIO-T1. This is consistent with the principles in our Strategy Decision document”. This is the passage referred to in the CA at §11.
23. The “financial parameters ... set out in Chapter 5” which are applied under RIIO-T1 were described in the CA at §§6, 11. They included the corporate finance parameters (p.32 Table 5.1): cost of equity at 7%; cost of debt annually indexed using 10-year trailing averages; and depreciation of 45 years on new assets. This axis of stability is precisely where Ofgem now threatens to strike. It does so in the name of an alleged ‘competition proxy’, consumer protection and efficient costs, all of which are features of the carefully designed price control arrangements. It invokes a fictional competition process, the conduct of which would be unlawful, and whose necessary legislative design is unknown.
24. All of this, moreover, in a context in which neither Ofgem, nor its advisers CEPA, even attempt to engage with the question of what is wrong with SWW, or what it is that makes SWW somehow unfit for purpose (a point made at CA §31). CEPA itself made clear (see *Review of the RIIO Framework and RIIO-1 Performance* March 2018, p.139) that it was not stating or supporting any conclusion that SWW was an inappropriate mechanism. CEPA said in July 2018 (*Review of Cost of Capital Ranges for New Assets for Ofgem’s Networks Division* 27 July 2018 p.30) that “Ofgem has not previously set out an approach for determining

the cost of capital for a separable, new and high value onshore investment". That is untrue. The SWW mechanism is applicable to such investments, and the RIIO-T1 financial parameters are applicable. There was an express competition caveat (or exception) to SWW applying in that way. It allowed for a competition process, pursuant to a framework, but that is the CATO alternative which has come to be paused (CA at §21) and is not therefore available.

25. SWW is described by Ofgem as the 'do nothing' option (Impact Assessment September 2018). The correct characterisation, however, is that SWW is the applicable mechanism, under which relevant costs are reassessed under an established methodology, and certain parameters are deliberately left stable and constant. That is what it means for the "*relevant incumbent TO*" to receive revenue for delivering the project "*in line with the prevailing price control arrangements*" (pp.2, 4).
26. Ofgem is right not to contend that it would be entitled to redesign SWW during the price control, with certain projects under SWW being the subject of a model of price control assessment involving the reopening of financial parameters like cost of capital. Ofgem is wrong to submit that its CPM route falls within the competition carve-out (or caveat) which it communicated in 2012 in putting the RIIO-T1 price controls in place. By no lawful, reasonable, proportionate or fair assessment can that position be sustained.

Review of Orkney delivery model

Prepared for SHE Transmission

7 February 2019

Final

1 Review of Orkney delivery model

In September 2018, Ofgem published its Impact Assessment (IA) on applying the Special Purpose Vehicle (SPV) model and Competition Proxy model (CPM) to future new, separable and high-value projects.¹ Oxera responded to this consultation on behalf of SHE Transmission.²

In December 2018, Ofgem proposed applying the CPM to the Orkney Transmission Project (Orkney) and published an Orkney-specific CPM cost–benefit analysis (CBA).³

In light of these documents, as well as the receipt of Ofgem’s Orkney-specific CBA model, SHE Transmission has commissioned Oxera to conduct a high-level targeted review of Ofgem’s cost-benefit analysis on delivering Orkney under the CPM rather than under the counterfactual delivery model of RIIO Strategic Wider Works (SWW). This review is split into three sections:

- section 1 lists the errors and omissions in Ofgem’s analysis;
- section 2 quantifies the effect of the errors on the CBA;
- section 3 summarises the conclusions of Oxera’s analysis.

1.1 Sources of error and omissions in the Orkney CBA

There are several errors and omissions in the Orkney CBA. This note focuses on the following aspects:

- inconsistent valuation dates for the CPM and RIIO scenarios;
- CPM cost of debt based on the 2017 rate rather than the expected 2023 rate;

¹ Ofgem (2018), ‘Impact assessment’, September.

² Oxera (2018), ‘Review of Ofgem’s Impact Assessment for CPM and SPV models’, 9 November.

³ Ofgem (2018), ‘Orkney transmission project: Consultation on Final Needs Case and Delivery Model’, 14 December, para. 3.13.

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- outdated RIIO-2 cost of equity.

The above list of errors is not exhaustive and may be extended following a more fundamental examination of the model.

1.2 Inconsistent valuation dates for the CPM and RIIO scenarios

In comparing the cost of Orkney under the CPM scenario against the cost of Orkney under RIIO, Ofgem has used inconsistent input data on interest rates. In particular, for the CPM cost of debt, Ofgem has relied on the data as of September 2017,⁴ while for RIIO it used data as of August 2018.⁵ As interest rates increased between September 2017 and August 2018, this inconsistency has resulted in an underestimation of the CPM cost of debt. In turn, this has resulted in the overestimation of the CPM net benefit.

Section 2 aligns the CPM and RIIO valuation dates to August 2018.

1.3 CPM cost of debt based on 2017 rate rather than the expected 2023 rate

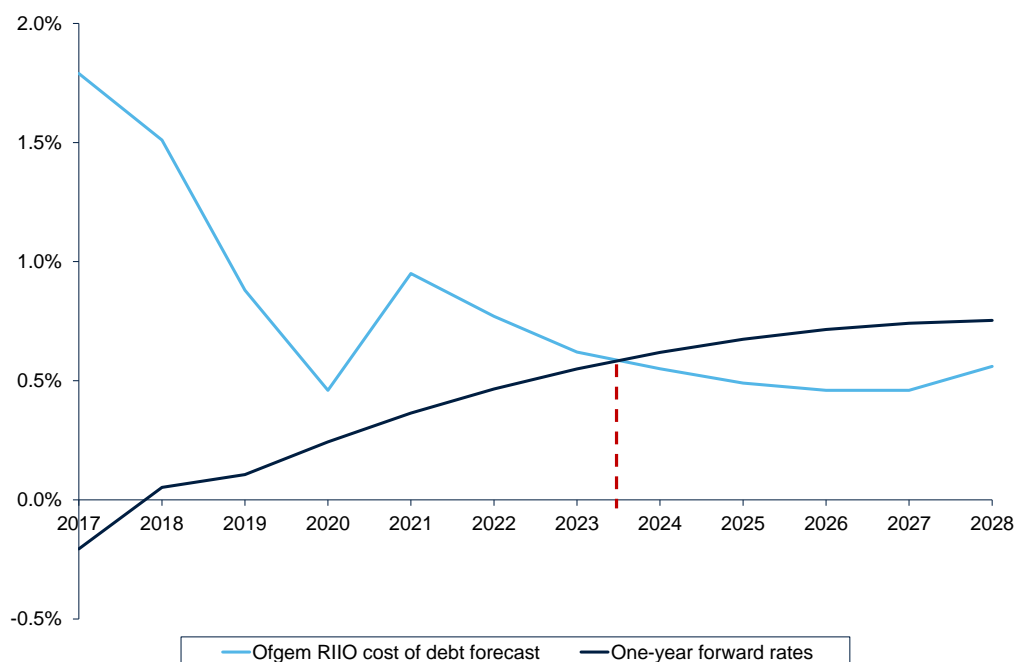
Ofgem's estimate for the cost of debt in the operations phase of CPM—which is assumed to be raised in 2023 at a rate that will then be fixed for the duration of the 25-year operations phase—is based on spot rates on iBoxx A and BBB indices from September 2017.⁶

Spot rates have already increased since September 2017 and, based on Bank of England forward rate data, will increase further by 2023. At the same time, the ten-year average cost of debt under the RIIO framework is projected to decrease over the next few years. Therefore, while the spot rates are currently lower than the RIIO cost of debt allowance, forward rates suggest that the pattern is going to reverse around 2024—precisely one year after the Orkney project is expected to raise debt for operations. This is illustrated in Figure 1.1.

⁴ Ofgem (2018), 'Orkney transmission project: Consultation on Final Needs Case and Delivery Model', 14 December, para. 3.22.

⁵ Ofgem (2018), 'Orkney transmission project: Consultation on Final Needs Case and Delivery Model', 14 December, Appendix 1, para. 1.2.

⁶ According to the Final Needs Case submission, the construction is scheduled to complete in October 2022. See Ofgem (2018), 'Orkney transmission project: Consultation on Final Needs Case and Delivery Model', 14 December, para. 3.23.

Figure 1.1 Projected Orkney real cost of debt under RIIO and CPM

Note: RIIO cost of debt represents the SHE-T weighted index, sourced from Ofgem's Orkney CBA model. Forward curve is evaluated based on Oxera's internal analysis as of August 2018. Rates are RPI-deflated using an inflation assumption of 3.2%, which corresponds to the mid-point of inflation range assumed by Ofgem for operations phase.⁷ Oxera analysis showed that the RIIO cost of debt in the Orkney CBA model is inconsistent with a 10-year average implied by forward rates. The inconsistency increases over time and therefore we have only presented data up to 2028, the last year for which the trailing average contains historical data.

Source: Oxera analysis based on Ofgem's Orkney CBA model and forward rate data from the Bank of England.

Section 2 quantifies the effect of using forward rates to estimate the cost of debt that will prevail under CPM in 2023 based on market expectations.

1.4 Outdated RIIO-2 cost of equity

In the RIIO-2 sector-specific consultation, Ofgem has presented an updated view on the cost of equity allowance for RIIO-2. It has proposed a range of 3–4% (RPI-based) over the course of RIIO-2, indexed to changes in the risk-free rate.⁸

Section 2 quantifies the effect of using the cost of equity range proposed for RIIO-2 in the sector-specific consultation.

2 Cost–benefit sensitivity analysis

This section illustrates how adjusting the CBA for some of the errors and omissions highlighted in section 1 affects the CPM net benefit estimate of £12m–£26m presented by Ofgem in Orkney CBA model.⁹ Table 2.1 summarises amendments to Ofgem's original assumptions. Table 2.2 presents the impact of correcting for the omissions described in section 1.

⁷ Ofgem (2018), 'Impact Assessment', p.10, para 2.10.

⁸ Ofgem (2018), 'RIIO-2 Sector Specific Methodology', para. 1.34.

⁹ Ofgem (2018), Orkney CBA model.xlsx.

Table 2.1 Amendments to Ofgem's assumptions

Assumption	Ofgem assumption	Amendment	Quantitative Implication
CPM cost of debt valuation date	September 2017	August 2018	Upward adjustment of real construction cost of debt by 19 bps in the low scenario and 29 bps in the high scenario. Upward adjustment of real operation cost of debt by 16 bps in the low scenario and 2 bps in the high scenario ¹
RIIO cost of debt valuation date	August 2018	August 2018	None
CPM construction cost of debt	Spot rate as of September 2017	Forward rate for 2019	Upward adjustment of real cost of debt by 38 bps in the low scenario and 23 bps in the high scenario ²
CPM operation cost of debt	Spot rate as of September 2017	Forward rate for 2023	Upward adjustment of real cost of debt by 39 bps in the low scenario and 30 bps in the high scenario ³
RIIO-2 cost of equity	A constant cost of equity in the range of 3.07–5.08%	Use the cost of equity estimate and the indexation as per the latest sector-specific methodology	3–4% (RPI-based). Indexation sourced from RIIO sector-specific methodology. ⁴ The range is assumed constant beyond 2026.

Note:

¹ The figures correspond to the difference between the interest rates as of September 2017 (Ofgem's original assumption for CPM) and the spot interest rates as of August 2018.

² The figures correspond to the difference between the forward rate for 2019 (estimated as of August 2018) and Ofgem's original construction cost of debt assumption and therefore are not additive to the valuation date adjustment.

³ The figures correspond to the difference between the 2023 forward rate (estimated as of August 2018) and Ofgem's cost of debt for operations and therefore are not additive to the valuation date adjustment.

⁴ Ofgem (2018), 'RIIO-2 Sector Specific Methodology', Table 14.

Source: Oxera analysis based on Ofgem's Orkney CBA model, Bank of England data and Ofgem RIIO-2 Sector Specific Methodology.

Table 2.2 Correcting the Orkney CBA

	CPM net benefit under	
	Low scenario	High scenario
Ofgem assumptions	£12.1m	£25.9m
Using construction cost of debt as at August 2018	£11.9m	£25.5m
Using operations cost of debt as at August 2018	£9.4m	£25.1m
Using forward rates for CPM construction cost of debt	£9.2m	£25.2m
Using forward rates for CPM operations cost of debt	£-3.1m	£18.5m
Updating the RIIO-2 cost of equity	£-5.9m	£1.2m
Amended CPM net benefit	£-5.9m	£1.2m

Note: This table shows the cumulative effect of the changes on CPM net benefit, i.e. each additional adjustment is quantified in combination with all previously listed in the table. The incremental effect of each individual adjustment is illustrated in Figure 2.1 and Figure 2.2. The values are rounded to the nearest decimal.

Source: Oxera analysis, based on forward rate data from Thomson Reuters, Bank of England and Ofgem.

Table 2.3 Additional sensitivities

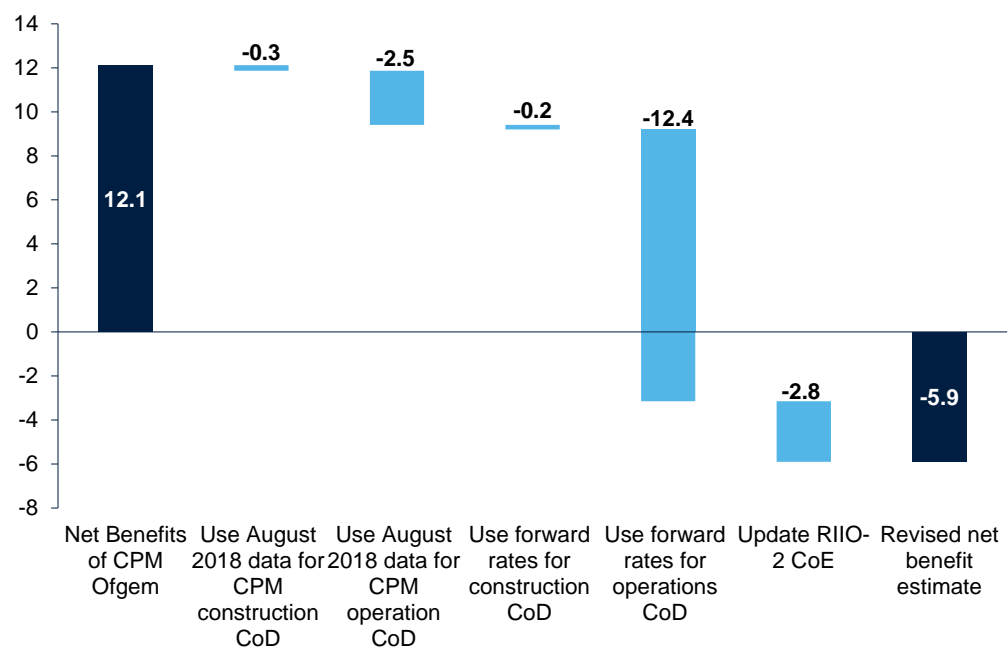
	CPM net benefit under	
	Low scenario	High scenario
Amended CPM net benefit	£-5.9m	£1.2m
Construction and operation delayed by one year ¹	£-7.3m	£-0.2m
Incremental effect	£-1.4m	£-1.4m
Amended CPM net benefit	£-5.9m	£1.2m
Credit spread increases in the future ²	£-8.7m	£-2.6m
Incremental effect	£-2.8m	£-3.8m
Amended CPM net benefit	£-5.9m	£1.2m
Credit spread decreases in the future ³	£-2.4m	£5.0m
Incremental effect	£3.5m	£3.8

Note: ¹ Cost of debt for construction is calculated as a forward rate for the year 2020 and the cost of operations debt is calculated as a forward rate for the year 2024. ² The forward curve for iBoxx indices is calculated by adding a credit spread to the forward rates on UK government gilts. In the main sensitivity analysis, Oxera relied on a one-year historical average spread, which resulted in a relatively low spread estimate. In this sensitivity, a three-year average outturn spread is used, following the methodology outlined in RIIO-2 Finance Annex. As a result of this sensitivity construction cost of debt increases by 16 bps in the low scenario and 36 bps in the high scenario, while operations cost of debt increases by 15 bps in the low scenario and 18 bps in the high scenario. See Ofgem (2018), 'RIIO-2 Sector Specific Methodology Annex: Finance', p. 12, para. 2.27. ³ Assumes a 20 bps decrease in the cost of debt for operation and construction over and above the cost of debt amendments listed in Table 2.2.

Source: Oxera analysis, based on forward rate data from Thomson Reuters, Bank of England and Ofgem.

The incremental impact of individual amendments (excluding the additional sensitivities) to the estimated level of savings is presented in Figure 2.1 and Figure 2.2.

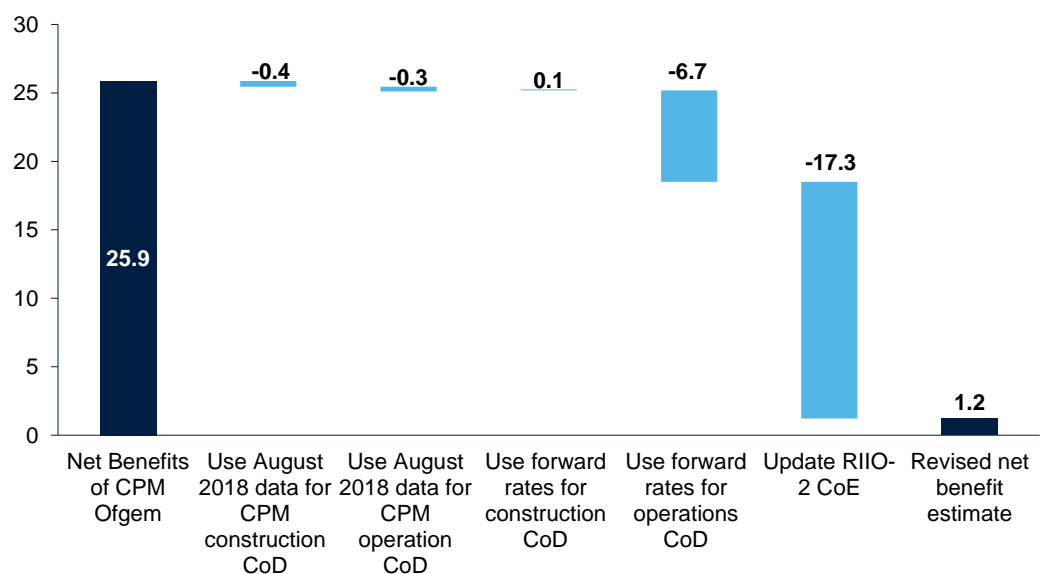
Figure 2.1 Incremental impact of Oxera's amendments on CPM net benefit under low scenario (£m)



Note: CoE, cost of equity; CoD, cost of debt. Some figures illustrated in this chart do not reconcile with Table 2.2 due to rounding.

Source: Oxera analysis, based on Ofgem's Orkney CBA model and data from the Bank of England.

Figure 2.2 Incremental impact of Oxera's amendments on CPM net benefit under high scenario (£m)



Note: CoE stands for cost of equity; CoD stands for cost of debt. Some figures illustrated in this chart do not reconcile with Table 2.2 due to rounding.

Source: Oxera analysis, based on Ofgem's Orkney CBA model and data from the Bank of England.

3 Conclusion

Having conducted a targeted high-level review of Ofgem's Orkney CBA model, Oxera identified a number of errors and omissions, namely:

- inconsistent valuation dates for the CPM and RIIO scenarios;
- CPM cost of debt based on the 2017 rate rather than the expected 2023 rate; and
- outdated RIIO-2 cost of equity.

The above list of errors is not exhaustive and may be extended following a more fundamental examination of the model.

In light of the identified errors and commissions, Oxera conducted sensitivity analysis on Ofgem's model. The results of the analysis show that the net benefit of Orkney decreases from £12.1m to -£5.9m in the low scenario and from £26m to £1.2m in the high scenario. The corrections to the CBA are not comprehensive and therefore the amended benefit could be even lower.

Based on the small number of sensitivities conducted, it appears that Ofgem has not provided a robust case for why the CPM would be more beneficial to consumers than SWW.

**Orkney Transmission Project
Consultation on Final Needs Case and Delivery Model**

SCHEDULE 2

COMMENTARY ON DELIVERY MODEL

Appendix 3

Responses to specific questions posed by Ofgem

For the reasons stated in the commentary on the delivery model, SHE Transmission does not agree with Ofgem's proposal to depart from the SWW mechanism for the Orkney project. Ofgem's assessment of the application of the CPM to the Orkney project suffers from serious errors. SHE Transmission's detailed responses are set out in the response document. A brief summary of SHE Transmission's position on the specific questions posed by Ofgem is set out below.

- 1. Consultation question 7: Do you agree with our assessment of the Orkney project against the criteria for competition?**
 - 1.1 Whilst SHE Transmission would agree that Ofgem has correctly identified that the Orkney project meets the three sets of criteria, 'new', 'separable' and 'high value', as outlined in the Orkney Consultation and Ofgem's 'Guidance on the Criteria for Competition', SHE Transmission does not agree with Ofgem's decision to consider the CPM (and SPV) for all SWW projects that meet the criteria and, therefore, does not agree with Ofgem's minded-to decision to apply the CPM to Orkney.
 - 1.2 Furthermore, the proposed application of the CPM to the Orkney project is undermined by Ofgem's omission of a IA for the project. The detail provided in the consultation falls far below the level which would normally be expected to be produced by a regulatory authority in its IA and which is necessarily required to justify the use of a new, untested model.

2. Consultation question 8: Do you agree with our proposal not to competitively tender the Orkney project using the SPV model or under our CATO framework unless there are significant delays to the delivery timelines?

2.1 SHE Transmission strongly objects to Ofgem's suggestion that it can leave open the possibility of reviewing its position on the use of the CATO framework and the SPV model in the event of any change to the delivery date for the Orkney Project. This approach is contrary to fundamental regulatory principles and undermines the regulatory certainty required for the financing and delivery of the project. Further details supporting this position are set out in section 4 of SHE Transmission's commentary on the delivery model.

3. Consultation question 9: Do you agree that the Competition Proxy Model would deliver a favourable outcome for consumers relative to the existing SWW delivery arrangements?

3.1 No, on the contrary, SHE Transmission considers that there are no proven customer benefits under the CPM, and detailed analysis shows significant risk of customer detriment. Ofgem has ignored the proven benefits of the SWW mechanism under which all major SHE Transmission projects under RIIO-T1 have been delivered successfully, on time and under budget. Further details supporting this position are set out in section 6 of SHE Transmission's commentary on the delivery model.

4. Consultation question 10: What are your views on the way in which we have applied project specific updates to the Competition Proxy Model methodology to account for the specific characteristics of the Orkney project?

4.1 SHE Transmission objects in principle to the application of the CPM to any project under RIIO-T1. In particular, SHE Transmission objects to the project-specific updates applied to the CPM by Ofgem as has been set out in the commentary on the delivery model. In particular:

- (a) The iBoxx A and BBB-rated non-financial corporate bond indices are inappropriate benchmarks for the construction phase cost of debt. There is no evidence that the project could achieve an investment grade credit rating in construction without support from a third party, which contradicts the hypothetical non-recourse nature of the project.

- (b) The absence of a revenue allowance during construction further contradicts the assumption that investment grade debt could be raised.
 - (c) While SHE Transmission agrees with the principle of aligning the high end of the equity beta range with that applied to offshore transmission, the low end of the equity beta remains wholly inappropriate as it is derived from the SHE Transmission RIIO-T1 price control determination, which reflects a mixture of construction and operational risk and is therefore not an appropriate lower bound for the construction phase equity beta.
- 4.2 SHE Transmission reserves the right to make further comments on these elements of the proposal in due course.

* * *