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Briefing note on the Cost Benefit Analysis (CBA).

This document summarises the detailed CBA analysis provided to Ofgem as part of the NESO’s assessment of the southern section of WCN2 as a qualifying project. Due to the sensitive commercial nature of the inputs and outputs of the CBA, full details of the results cannot be shared publicly, however the outcome is summarised in this document. The NESO has shared the full outcome and a copy of the model with Ofgem.

Outcome of the CBA

The CBA analysis shows delivering the southern section of WCN2 through competition is likely to provide a net benefit to consumers.

The CBA returns an NPV saving of £44m in the base case and shows NPV savings ranging between £12m to £81m across the scenarios.

The qualitative assessment shows neither a benefit nor disbenefit through competition for the factors considered. When considered together, the overall outcome suggest that competition is likely to provide a net benefit for consumers.

Summary of inputs

The project costs have been calculated as follows:

Capital expenditure (Capex) costs

Capex costs for the project have been calculated in the tCSNP2 banding of £500m - £1000m.

The cost information used in the CBA methodology is provided by the TOs as part of the tCSNP2 submission. However, the cost information provided for this project covers the entire WCN2 project, including the non-competed elements.

To identify the costs associated with the proposed competed elements of WCN2, NESO conducted its own cost estimation exercise, supported by the NESO’s consultants and advisors. The outcome of this was then compared to the TO’s estimate used in the tCSNP2 and was found to be comparable as an element of the overall cost of the project at an assumed percentage of the proposed competed works vs non-competed works.

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Capex refresh costs

Capex refresh costs have been included in the cost estimate, based on assumed component design lives.

Operational Expenditure (Opex) costs

In the absence of defined operating cost for the specific project, the NESO has conducted its own cost estimation, supported by the NESO's consultants and advisors, of the overall operational costs, including direct and indirect costs.

Analysis of the performance documents submitted by the TOs to the regulator provide a ratio for operating cost to regulated asset value (RAV), which may be used for the CBA analysis.

Opex costs have been applied at a rate of 3.6% per annum of total Capex applied each year, post commissioning.

WACC assumptions

The RIIO WACC forecast used in the CBA aligns to Ofgem's RIIO-3 Sector Specific Methodology Decision (SSMD)¹.

Constraint Costs

No constraint costs have been applied as the NESO's analysis, supported by their consultants and advisors, of best-case and worst-case CATO programme shows energisation ahead of the optimal delivery date (ODD).

Summary of other inputs

Other inputs for the base case CBA are shown in table 1 below and the inputs used in the scenario testing are shown in table 2.

¹ https://www.ofgem.gov.uk/sites/default/files/2024-07/RIIO-3_SSMD_Finance_Annex.pdf

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Table 1: Element values considered under the base case in the CBA methodology.

Element	Value
Cost of equity	10%
Cost of debt	Construction: Forward swap base rate + 220 bps Operations: Forward swap base rate + 135bps
Gearing	85%
Capex efficiency	10%
Opex efficiency	10%
Procurement cost (pre-tender)	1% of capex plus £1m fixed; FY 2028
Procurement cost (Tender)	1% of capex plus £1m fixed; FY 2028
Bidder cost	1% of capex
Constraint cost ⁸	-
Contract management	£0.15m p.a.

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Table 2: Element values considered under various scenarios in the CBA methodology

Scenario key	Scenario name	Value
Base case	Base case	See table below
S1	Cost of equity (high)	12% +25bps FOAK premium for first procurement rounds
S2	Cost of equity (low)	8%
S3	Cost of debt (high)	Construction: Forward swap base rate + 230 bps Operations: Forward swap base rate + 145bps
S4	Cost of debt (low)	Construction: Forward swap base rate + 210 bps Operations: Forward swap base rate + 125bps
S5	Gearing (high)	90%
S6	Gearing (low)	80%
S7	Capex efficiency (high)	20%
S8	Capex efficiency (low)	5%
S9	Opex efficiency (high)	20%
S10	Opex efficiency (low)	5%
S11	Procurement cost (high)	2%
S12	Procurement cost (low)	0.5%
S13	Bidder cost (high)	2%
S14	Bidder cost (low)	0.8%
S15	Constraint cost (high)	- ⁹
S16	Constraint cost (high)	- ¹⁰

Summary of outputs

Quantitative assessment

Base case analysis

The base case shows the benefits and costs associated with competition as shown in table 3 below. The value of the cost or savings associated with each factor are dependant on the sequence they are calculated in the model and are also subject to change in the various scenarios considered. However, the base case results are included here to provide a scale of the potential costs and benefits associated with competition.

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Table 3: Summary of base case CBA results

Factor	Cost/Saving on NPV against counterfactual
Concession period profile	£17m costs
Financing costs	£20m savings
Capex efficiency	£37m savings
Opex efficiency	£20m savings
Bidder costs	£3m costs
Procurement and licencing costs	£13m costs
Total	£44m savings

Scenarios

The CBA shows a positive result for competition across all scenarios, with the NPV savings between £12m to £81m shown in the box and whisker chart shown in figure 1. The total TRS NPV is shown for all scenarios in figure 2.

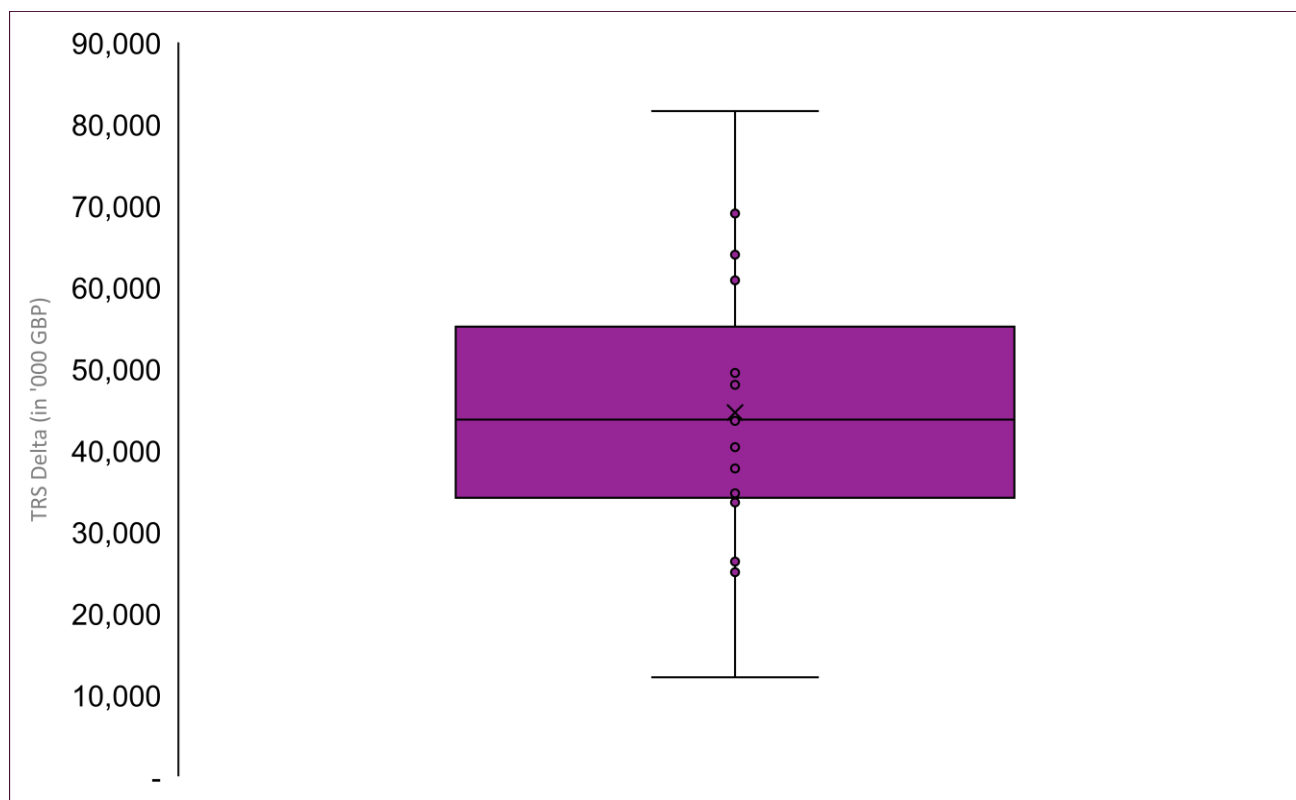


Figure 1: Box and whisker plot - TRS NPV delta (in '000 GBP) for counterfactual and factual cases for all scenarios

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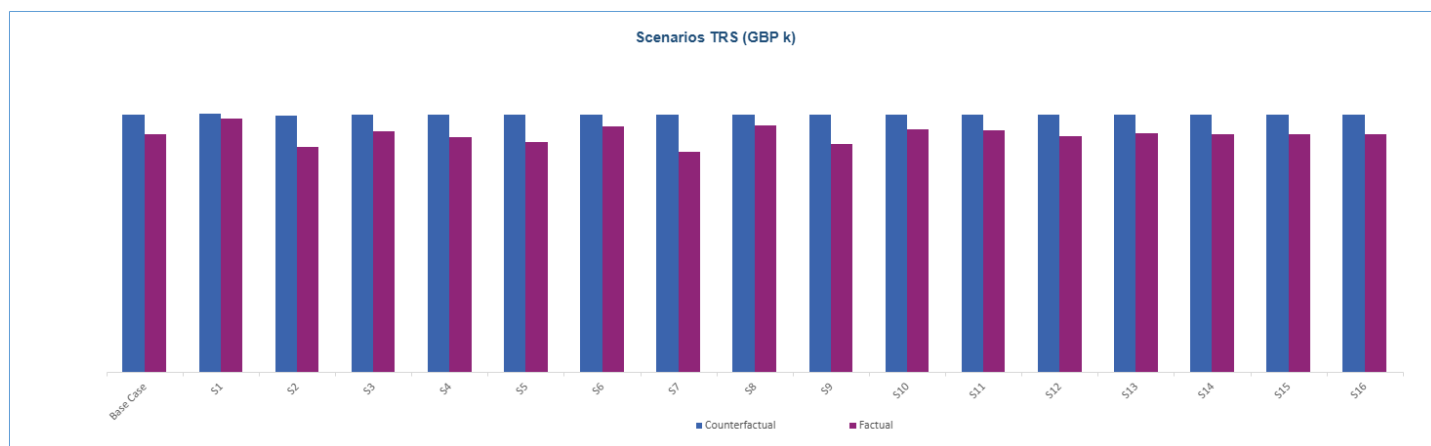


Figure 2: Output of TRS NPV for counterfactual and factual cases under various scenarios. Y axis starts at 0.

Quantitative assessment

Table below presents the qualitative CBA assessment for the southern sections of WCN2. The table provides responses to the assessment questions identified for the five qualitative factors. The aggregate score from the assessment is used to indicate whether there is a likelihood for a net cost or benefit under the factual case compared to the counterfactual case.

Based on the established scoring methodology, the aggregate score for the selected factors for the project is zero. This indicates a neutral outcome from a qualitative CBA perspective, implying neither a benefit nor disbenefit for the qualitative factors considered.

Table 4: Quantitative assessment

Factor	Questions	Score
Large consortium costs	<u>Considerations for Factual case</u> <ul style="list-style-type: none"> The reference design capex for the project is below £1bn, and thus may potentially not involve a large and complex consortium structure. Further, the project finance scale may not require a syndicate structure for debt. However, this is subject to further market engagement with lenders. 	0
	<u>Considerations for Counterfactual case</u> <ul style="list-style-type: none"> Financing for the project by the TO would involve corporate finance. 	

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	<p><u>Net position</u></p> <ul style="list-style-type: none"> Both the CATO and the TO may have the potential deliver it or without complex consortium structure or without the need for complex syndications for financing. The net effect is likely to be negligible. The view is subject to inputs from further market engagement, incorporating the views on the need of consortium members for delivery of the scope of work, and view of the lenders in financing the project as a sole lender
<p>Additional system costs</p>	<p><u>Considerations for Factual case</u> 0</p> <ul style="list-style-type: none"> Considering the CATO will deliver the project based on the reference solution proposed in the CSNP, there is unlikely to be any additional cost or benefit to the CATO compared to the TO. <p><u>Considerations for Counterfactual case</u></p> <ul style="list-style-type: none"> The cost to the TO is known and based on the reference solution. <p><u>Net position</u></p> <ul style="list-style-type: none"> Both the CATO and the TO are likely to deliver the reference solution, and thus have similar costs. The net effect is likely to be negligible.
<p>Bidder Portfolio effect</p>	<p><u>Considerations for Factual case</u> 0</p> <ul style="list-style-type: none"> The reference solution currently does not suggest of any benefits which may arise from economies of scale. In case of the CATO being a TO in any other geography, there may be a potential of a portfolio effect. <p><u>Considerations for Counterfactual case</u></p> <ul style="list-style-type: none"> If the TO has similar projects ongoing or upcoming before 2030, they could benefit from economies of scale. <p><u>Net position</u></p> <ul style="list-style-type: none"> Both the CATO and the TO are likely to have a similar potential for a portfolio effect. The net effect is likely to be negligible. Further assessment of the factor would be dependent on the discussions with potential bidders through the pre-tender engagement, and their proposal for solutions which suggest CATO or TO to benefit from the portfolio effect.

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Innovation – ecological impact	<u>Net position</u> <ul style="list-style-type: none"> Both CATO and TO may be able to bring innovation on account of their similar experiences, their ability to bring in specialists. The net effect is likely to be negligible. Further assessment of the factor would be dependent on the discussions with potential bidders through the pre-tender engagement, any alternative solutions suggested by the bidders which may have a materially different ecological impact. 	0
Innovation – systems, processes, and technology	<u>Net position</u> <ul style="list-style-type: none"> Both CATO and TO may be able to bring innovations in systems, processes, technology. The net effect is likely to be negligible. Further assessment of the factor would be dependent on the discussions with potential bidders through the pre-tender engagement, any alternative solutions which suggest a materially different system or technology solution to deliver consumer value. 	0
AGGREGATE SCORE AND NET POSITION	Factual case may deliver net benefit or cost for consumers	0

Combined CBA outcome

The quantitative CBA outcome is positive, with base case along with all scenarios showing a benefit. Thus, the factual case is likely to deliver net benefit for consumers under the quantitative assessment.

The qualitative CBA outcome is neutral, which indicates that the factual case may deliver net benefit or cost for consumers based on qualitative factors.

Overall, both the quantitative and qualitative assessments together suggest that the factual case is likely to provide a net benefit and better value for consumers. In this reasonable estimate of benefits and costs, benefits of the factual case outweigh costs.