

Gate two query process

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|-----------------------|-----------------------------|
| Strategic solution(s) | Thames to Southern Transfer |
| Query number | TST003 |
| Date sent to company | 08/12/2022 |
| Response due by | 12/12/2022 |

Query

In the gate two guidance, we asked companies to assess value for money of delivery via DPC using Ofwat's prescribed standard assumptions (for reference we were expecting SRO to use the assumptions provided to companies at PR19: [Thames-Water-Direct-procurement-for-customers-detailed-actions.pdf](https://www.ofwat.gov.uk/Thames-Water-Direct-procurement-for-customers-detailed-actions.pdf) ([ofwat.gov.uk](https://www.ofwat.gov.uk)))

Please explain how you have used the prescribed assumptions in the assessments, and where you have deviated from the assumptions provide rationale for the different approach and any underpinning analysis to support that approach, for example, current market rates etc.

Solution owner response

Context and Overall Approach:

Our Gate 2 modelling was initially developed to support an indicative comparison of the SIPR (RAB) and DPC models compared to 'in house' procurement, focused on SESRO, our largest scheme. As there are no standard assumptions to apply for SIPR, we used a top-down approach to derive the WACC.

This modelling approach was then replicated across three of our other SROs (London Water Recycling, T2ST and T2AT). As modelling was intended to be indicative only (and considered alongside a qualitative assessment), we

modelled only one scheme or variant per SRO. This high-level approach reflected the early stage of the projects' development and lack of market engagement to date, and allowed for cost savings to be made at Gate 2 compared to more extensive modelling exercises.

As a result, our Gate 2 model does not allow for the inclusion of all of the parameters as set out in Ofwat's prescribed assumptions, we have not modelled the full range of sensitivities set out in that guidance, and there are differences of approach, including on how the WACC is derived. Notwithstanding, we have sought to align with Ofwat assumptions where possible – please see the detailed comparison in Table 1 below.

We note that an 'Early Assessment of Value for Money' in Ofwat's draft guidance¹ requires a high-level assessment of VfM (a full financial model is not required), and that the draft PR24 methodology² establishes that competitive tendering (DPC or, where applicable, SIPR) will be used by default for projects that meet size and discreteness criteria. We are committed to competitive tendering for such SROs, and our initial VfM modelling supports this.

For T2ST, we do not recommend further update or development of the model ahead of the Gate 3 'checkpoint 1' (currently proposed for March 2024) which will confirm the timing of the scheme and is likely to lead to a multi-year deferral of the work needed to meet the 2040 in-service date, with near term work focused on design development. A full financial model will be developed for Stage 2, drawing on market soundings and assumptions applicable at the time.

Gate 2 Modelling approach: IRR and cost of debt assumptions used to estimate the WACC

As set out in the Gate 2 submission, our DPC model assumes that equity investors will achieve an Internal Rate of Return (IRR) equal to the cost of equity in the WACC composition (set out in the tables below), therefore project equity IRR being equal to cost of equity.

¹ Section 5.3, Draft Guidance for Appointees delivering DPC projects, Ofwat, September 2022

² Creating tomorrow, together: consulting on our methodology for PR24, Ofwat, July 2022

The WACC in our model is based on a top-down approach using industry WACC comparators, rather than built bottom-up. For DPC modelling, we used a CPIH-deflated vanilla WACC range of 2.50% to 3.83%:

- The low end of the range uses the Thames Tideway Tunnel (TTT) WACC, considered to be a relevant water industry comparator.
- The upper end of the range uses the 17/18 WACC from the OFTO regime.

Breakdowns of these comparator WACC figures are shown below.

Table 1 - OFTOs 17/18 WACC composition:

| | |
|---|--------|
| Equity contribution | 58.80% |
| Debt contribution (gearing) | 41.20% |
| Cost of equity (also used for DPC equity IRR calculation) | 5.21% |
| Cost of debt | 1.86% |
| WACC (real) | 3.83% |

Source: Based on CEPA's Evaluation of OFTO Tender Round 2 and 3 benefits. Source: Table 4.1 of 'Review of cost of capital ranges for new assets for Ofgem's Networks Division', Ofgem, 2018 ([cepareport_newassets_23jan2018.pdf \(ofgem.gov.uk\)](#)) (values adjusted for inflation (CPI-H) and to exclude tax).

Table 2 - TTT WACC composition:

| | |
|---|--------|
| Equity Contribution | 37.50% |
| Debt contribution (gearing) | 62.50% |
| Cost of equity (also used for DPC equity IRR calculation) | 4.00% |
| Cost of debt | 1.60% |
| WACC (real) | 2.50% |

Source: Approximated based on reported WACC and other known parameters, for example as discussed here: [Thames-Tideway-Tunnel_1-1.pdf-1.pdf \(oxera.com\)](#) (TTT WACC breakdown is not in the public domain)

Net Present Value:

We did not present Net Present Value as an output from our modelling. Instead, we presented average annualised cost to customers to compare delivery models, with ranges representing key sensitivities. In response to this query we have provided NPV values using Ofwat's standard discounting assumptions, in

Table 4 below. This shows a slight difference in the rankings of different scenarios between AAC and NPV calculations due to the differences in mechanics and timings of payments between different models - however, these changes do not impact the overall conclusions in our report.

Alignment with Ofwat PR19 DPC modelling assumptions:

Table 1 overleaf outlines Ofwat's PR19 assumptions, and the assumptions used in our Gate 2 model.

Table 3 – comparison between our Gate 2 modelling and Ofwat’s prescribed PR19 assumptions

| Area | Item | DPC (Factual) Assumptions | In-house (Counterfactual) Assumptions | Assumptions used in our Gate 2 model |
|--------------------|---------------|---|--|---|
| Customer Payments | Value | Determined by CAP contract payments and Appointee costs | Determined by Allowed Revenues from PR framework | Our model aligns with these assumptions |
| | Timing | From first payment by customers which would usually be expected after asset completion. If improved contractual terms are identified with earlier payments then these should be considered. | From first payment by customers which would usually be when the appointee starts collecting from customers as per its business plan ‘allowed revenue’ profile. | Our model aligns with these assumptions. Payment is assumed to start in year one of construction for the in-house model. |
| Contract period | Length | Mid-case 25 years, Lower-case 20 years, Upper-case 50 years | Not needed | Our model uses a 20-year DPC contract duration post-construction (c.30 year total duration for SESRO, T2ST and T2AT). After which assets are assumed to transfer onto Thames Water’s/Southern Water’s RCV, and the in-house model is assumed for the remainder of the modelled period. |
| PV Calculation | Period | From the start of the customer payments until the end of the asset life (or until there is no difference in asset value, maintenance and finance costs). | | Present Value not presented as an output from our modelling. Instead, we presented average annualised cost (averaged over the entire appraisal period/useful economic life of the asset) to compare DPC to in-house and SIPR models. This will be addressed in a full financial model. |
| | Discount rate | Discount rate of 3.5% real decreasing overtime (Based on HM Treasury Green Book Supplementary Guidance: discounting (3.5% 0-30 years, 3.0% 31-75 years, 2.5% 76-125 years) | | |
| Indexation | | CPIH | CPIH | Not applicable – we undertook modelling in real terms, as 5.3 of the September guidance indicates is appropriate. |
| Asset Depreciation | Method | Straight line or as per companies policy for asset type, the treatment should be consistent between DPC and in-house deliver. | | Our model aligns with these assumptions – we applied straight-line depreciation. |
| | Depreciation | Mid-case - As per company policy for this | As per company policy for | We did not model different depreciation |

| Area | Item | DPC (Factual) Assumptions | In-house (Counterfactual) Assumptions | Assumptions used in our Gate 2 model |
|--------------------|-------------------------|---|--|--|
| | Rate | asset type Lowercase +25% faster company policy rate | this asset type | scenarios for DPC. This will be addressed in a full financial model. |
| Financing Costs | Cost of debt | Construction: Forward Libor 6m swap + 220bsp –240bsp Operation: forward Gilt / Libor 6m swap + 120bsp –140bsp RCV bullet repayment: forward Gilt / Libor 6m swap + 120bsp –140bsp | As per company policy for this asset type | For in-house, our model complies with Ofwat assumptions – we used notional gearing of 60%. For DPC, as set out in the text above, our model used top-down cost of capital assumptions based on industry comparators. Please see Table 1 and Table 2 above for details of these assumptions. |
| | Cost of equity | Equity IRR (Real) 8% (Upper case 7%, lower case 10%) | As per company business plan | |
| | Gearing | Mid case 85% (Upper case 90%, lower case 80%) after asset completion. | As per company business plan or Ofwat notional of 60%. | |
| | Assumptions | Given the ranges available above, please provide explanation justifying your selections made | N/A | |
| Cost differentials | Capex efficiency saving | Mid case 10% (Uppercase +15%, lowercase 5%) | In-house is base case | Our modelling assumes a range of 10-15% efficiency for DPC – aligning to the mid- and upper-case assumptions. |
| | Opex efficiency saving | Mid case 10% (Uppercase +15%, lowercase 5%) | In-house is base case | |
| | Additional Bidder Costs | Additional bidder costs of 2% of capital spend, (Upper case 1%, lowercase 3%) | In-house is base case | Our modelling assumes transaction costs from 2-5% of capex, which broadly aligns with these assumptions. |
| | Procurement | Procurement costs of 1% of capital spend, (Uppercase 0.5%, Lowercase 2%) | In-house is base case | |

| Area | Item | DPC (Factual) Assumptions | In-house (Counterfactual) Assumptions | Assumptions used in our Gate 2 model |
|----------------|-------------|--|---------------------------------------|---|
| | Management | Contract management costs £150k per annum. (Lowercase £300k per annum for high operational interaction schemes) | In-house is base case | Additional management costs not included and are assumed to be within margin of error of estimated operating costs. |
| Terminal Value | Assumptions | Please disclose clearly any assumptions about terminal value | N/A | Our model assumes assets fully depreciate over the appraisal period/useful economic life (80 years post-construction for T2ST scheme) Assets are assumed to be transferred to water company RCV at the end of the DPC contract duration, at which point the transfer value is determined by straight line depreciation. |

Table 4 Net Present Values

Note that the values in the table below are highly dependent on the modelling assumptions made, and should be considered indicative, for comparison only.

| T2ST | Average annualised values (AAV), £m | NPV, £m | AAV (as % of 'in house – high' case) | NPV, as % of 'in house – high' case | Ranking - order of AAV (1 - lowest) | Ranking - order of NPV (1 - lowest) |
|-----------------|-------------------------------------|---------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| In house - High | 27.5 | 711 | 100 | 100 | 4 | 4 |
| In house - Low | 25.6 | 649 | 93 | 91 | 3 | 2 |
| DPC - High | 25.8 | 631 | 94 | 89 | 2 | 3 |
| DPC - Low | 21.6 | 489 | 78 | 69 | 1 | 1 |
| SIPR - High | <i>Not eligible</i> | | | | - | |
| SIPR - Low | <i>Not eligible</i> | | | | - | |

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|---|---|
| Date of response to RAPID | |
| Strategic solution contact / responsible person | <div style="background-color: black; width: 150px; height: 15px; margin-bottom: 5px;"></div> <div style="background-color: black; width: 250px; height: 15px;"></div> |