

## Gate two query process

Strategic solution(s)	London Water Recycling
Query number	LOR004
Date sent to company	05/12/2022
Response due by	12/12/2022

### Query

In our previous query LOR002, we asked you to explain "how you have used the prescribed assumptions in the assessment, 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.

The response to the query states that "the modelling used Ofwat assumptions – set out in Table 7 (page 24) of Annex E (Procurement Strategy Report)"

In many cases, the values in table 7 do not clearly align with our prescribed 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 \(ofwat.gov.uk\)](https://www.ofwat.gov.uk/procurement/procurement-strategy-report/annex-e/annex-e-table-7/)). For example, the weighted average cost of capital and transaction costs, depreciation, gearing. For these areas, please explain the approach taken and provide evidence/analysis to support the approach. In addition, please provide:

- The IRR and cost of debt assumptions used to estimate the different WACC used in the modelling
- the net present value results from the modelling.

## Solution owner response

*This response has been written in line with the requirements of the RAPID Gate 2 Guidance and to comply with the regulatory process pursuant to Thames Water's statutory duties. The information presented relates to material or data which is still in the course of completion. Should the solution presented in the Gate 2 documents be taken forward, Thames Water will be subject to the statutory duties pursuant to the necessary consenting process, including environmental assessment and consultation as required. This response should be read with those duties in mind.*

### 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 SRO 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 solution 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 which may have become abortive given some schemes within the SRO have not been selected by the draft regional plan.

As a result, our Gate 2 model does not allow for the inclusion of all the parameters 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 4 below.

We note that an 'Early Assessment of Value for Money' in Ofwat's draft guidance<sup>1</sup> requires a high-level assessment of VfM (a full financial model is not required), and that the draft PR24 methodology<sup>2</sup> establishes that competitive tendering (DPC or, where applicable, SIPR) will be used by default for projects that meet

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<sup>1</sup> Section 5.3, Draft Guidance for Appointees delivering DPC projects, Ofwat, September 2022

<sup>2</sup> Creating tomorrow, together: consulting on our methodology for PR24, Ofwat, July 2022

size and discreteness criteria. We are committed to competitive tendering for such SROs, and our initial VfM modelling supports this.

As explained in our Gate 2 submission and previous query response, the only selected scheme within the London Water recycling SRO is Teddington DRA and this has been assessed as not suitable for DPC as not discrete.

The modelling undertaken related to the Beckton scheme; Beckon and Mogden are retained as potential alternatives to other selected solutions (including Teddington DRA) but are not currently selected in their own right within the WRSE planning horizon. Beckton and Mogden schemes were assessed as suitable for DPC and should either be progressed, we would work with our supply chain partners to develop a full financial model in accordance with latest assumptions and market intelligence, prior to Control Point C.

### **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.

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 (NPV) 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 3 below. Please note that this approach leads to NPVs in the same ranking as the ranking of the average annualised cost to customers, so does not impact the conclusion our report regarding the comparison between models.

Table 3 – Net Present Values

London Water Recycling	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 and NPV
In house - High	10.0	210	100	100	3
In house - Low	9.4	196	94	93	2
DPC - High	13.0	235	130	112	4
DPC - Low	8.8	159	88	75	1
SIPR - High	Not eligible				-
SIPR - Low	Not eligible				-

Note that the values in table 4 are highly dependent on the modelling assumptions made, and should be considered indicative, for comparison only.

### Alignment with Ofwat PR19 DPC modelling assumptions:

Table 4 outlines Ofwat’s PR19 assumptions, and the assumptions used in our Gate 2 model.

Table 4 – 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 30-year duration post-construction for London Water Recycling schemes to align to the expected useful asset life of the M&E assets.
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 DPC guidance indicates is appropriate.

Area	Item	DPC (Factual) Assumptions	In-house (Counterfactual) Assumptions	Assumptions used in our Gate 2 model
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 Rate	Mid-case – As per company policy for this asset type Lowercase +25% faster company policy rate	As per company policy for this asset type	We did not model different depreciation scenarios for DPC. This will be addressed in a full financial model.
Financing Costs	Cost of debt	Construction: Forward Libor 6m swap + 220bsp –240bsp	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.
		Operation: forward Gilt / Libor 6m swap + 120bsp –140bsp		
		RCV bullet repayment: forward Gilt / Libor 6m swap + 120bsp –140bsp		
	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	Mid case 10% (Uppercase +15%, lowercase 5%)	In-house is base case	

Area	Item	DPC (Factual) Assumptions	In-house (Counterfactual) Assumptions	Assumptions used in our Gate 2 model
	saving			
	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	
	Management	Contract management costs £150k per annum. (Lowercase £300k per annum for high operational interaction schemes)	In-house is base case	
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 (30 years post-construction for London Water Recycling schemes, which are largely made up of M&E assets)

We hope our response provides clarity on the query. If you require any further information on the above, please contact the strategic solution contact below.

<b>Date of response to RAPID</b>	12/12/2022
<b>Strategic solution contact / responsible person</b>	[REDACTED] [REDACTED]