

Thames Tideway Tunnel – Cost of capital

CEPA briefing note – 25th August 2015

Introduction

Thames Water over the past nine months has run a competitive licence application to appoint the Infrastructure Provider (IP) who will be responsible for financing and delivering the Thames Tideway Tunnel (TTT) project.

The TTT is a technical solution to developing London's sewerage system to comply with European standards under the Urban Waste Water Treatment Directive concerning sewerage being released into the Thames.

On August 24th, Bazalgette Tunnel Limited, a consortium comprising Dalmore Capital, Allianz Capital Partners, Amber Infrastructure, International Public Partnerships (INPP), DIF and Swiss Life Asset Managers, was formally awarded the license by Ofwat (the water and sewerage industry regulator in England and Wales) for the TTT project.

A key feature of the competitive IP appointment process was a requirement for bidders to submit the cost of capital that they required to be applied to calculate the IP's allowed revenues during the construction period of the project. In formally announcing Bazalgette Tunnel Limited as the appointed licensee, Ofwat has stated that the bid weighted average cost of capital (BWACC) will be 2.497%.

This short note seeks to analyse what could be the implied cost of equity during the construction period, given this BWACC.

TTT regulatory framework

Economic regulation of the TTT project will be split between a construction period and an operational period. The 2.497% BWACC will apply only during the construction period of the project, whilst during the operational period, Ofwat will set an allowed cost of capital, similar to the approach it applies to other water and sewerage company licensees. In its economic guidance for the project, Ofwat states that, subject to adjustments set out in the TTT licence, the BWACC will apply up to and including 31 March 2030 – the day prior to PR29 becoming effective.

The regulatory framework and processes during the construction period are built around ensuring that the IP has sufficient funds to meet IP's debt servicing costs etc. and even allow investors access to some return during the construction period. This is recognised in Ofwat's economic guidance for the TTT where it notes that: *“As the Project will spend a number of years in construction before becoming fully operational, we have agreed to a number of*

regulatory adaptations that are designed to support the IP in financing the construction of the Project at an efficient cost to customers.”¹

Ofwat has previously described the regulatory regime during construction as *“adopting and adapting a number of elements of the current regulatory framework that are familiar to investors seeking utility-like risk profiles.”²* These elements of the regime include:

- the concept of a Regulatory Capital Value (RCV) – with accompanying RPI indexation - will be applied like with other regulated water and sewage companies;
- the IP’s allowed revenues during construction will be determined according to a building block approach; and
- there will be a bespoke incentive framework to facilitate efficient costs and timely delivery adapted from existing mechanisms in the industry (see below).

The BWACC during the construction period is a real post-tax WACC as investors in the project are compensated for inflation through indexation of the RCV and a separate building block allowance of the project company’s taxation costs.

Up to an agreed level of construction cost (the ‘Threshold Outturn’) the IP will be remunerated for all construction costs incurred, subject to an equity incentive mechanism. The equity incentive is a form of cost incentive (similar to that applied in other network price controls) whereby the IP will benefit from enhanced returns to the extent that it outperforms the original target costs for the project (including contingency). Incentive mechanisms for the project also contain separate disincentives for delay, whereby there will be reductions in the cost of capital that the IP is entitled to recover during the period of delay.

In addition, in the event that the project’s construction costs are forecast to exceed the Threshold Outturn, the IP may apply to Ofwat for an increase in allowed revenue (an ‘IAR’ event), under the terms of its project licence, in order to increase revenues to fund the additional expenditure. In circumstances where the Threshold Outturn is forecast to be exceeded, the IP may also request that the UK Government provides equity finance pursuant to a support package (the ‘GSP’) it has agreed to provide.^{3 4}

Bazalgette Tunnel Limited financing

There is currently only limited information in the public domain of the expected financing arrangements of Bazalgette Tunnel Limited. Infrastructure News states that the consortium

¹ Ofwat (2015): ‘Ofwat guidance on the approach to the economic regulation of the Infrastructure Provider for the Thames Tideway Tunnel project’

² Ofwat (2014): ‘Consultation on the regulatory framework for the infrastructure provider that will deliver the Thames Tideway project’

³ Ibid.

⁴ Equity investors in the IP will be required to fund the TTT’s project spend up to the Threshold Outturn, however, they will not be obliged to fund any additional capital costs above the Threshold Outturn, but will have the option to do so.

is expected to invest circa GBP 2.8bn into the project comprised of circa GBP 1.6bn of debt and GBP 1.2bn of equity. With regards the debt financing of the project:

“Banks set to lend on the project are RBC, Credit Agricole, BTMU, SMBC and Lloyds. The EIB, which has approved a loan for the project, may come in at a later stage.

The commercial lenders are providing 10-year debt in the form of a revolving credit facility. InfraNews previously reported that margins on the debt are sub-100bps over Libor.

The debt will undergo a staggered bond refinancing as the project moves through its seven to 10-year construction phase. The first refinancing is due by years three and four.”⁵

Given that Ofwat has now published the BWACC for the construction period, and given some knowledge of the expected financing arrangements that underpin the IP’s required cost of capital during the construction period, scenarios of what the implied cost of *equity* may have been can be investigated.

Scenarios for the cost of equity

To determine a range for the cost of equity we need to make assumptions about the other key variables in the cost of capital.

With respect to gearing there are various assumptions that we could make, two that seem appropriate are:

- from the InfraNews story a long-term gearing level of c. 57.5% is appropriate; and
- assuming that equity is drawn down first, then over a seven to 10-year construction period and until the first price review that TTT is subject to, PR29, something in the range of 30-40% is appropriate.

An assumption of the *average* cost of debt over the construction period is more difficult to determine, as it will depend on Bazalgette Tunnel Limited’s assumptions of the future cost as the project undergoes the planned staggered bond refinancing.

We therefore model a range of cost of debt scenarios, ranging from 0.5% (real) to 2.0% real as the average cost of debt over the construction period. As a point of comparison, the iBoxx non-financials 10+ A and BBB rated indices, deflated by 10-year break-even inflation (as reported by the Bank of England) currently report spot rates of 1.02% (A rating) and 1.38% (BBB rating) compared to a one-year average of 0.94% and 1.17% respectively.

Table 1 summarises the results, illustrating that as the assumed cost of debt assumption increases, the implied cost of equity in the BWACC reduces.

⁵ Infrastructure News – “Thames Tideway financial close due later this week’, August 19th 2015

Table 1 – Implied TTT cost of equity using scenario analysis

Element	Case 1	Case 2	Case 3	Case 4
Cost of debt	0.5%	1.0%	1.5%	2.0%
Cost of equity – @57.5% gearing	5.2%	4.5%	3.8%	3.2%
Cost of equity – @30% gearing	3.4%	3.1%	2.9%	2.7%

Source: CEPA analysis

This analysis would suggest that the implied cost of equity for the TTT could be in the range 2.7% - 5.2% (real post tax), although given current spot rates for investment grade rated debt and the unlikelihood that the cost of equity for the project would be less than the cost of debt, a narrower range of 3.0% - 4.5% perhaps appears more plausible. However, forward bond rates would suggest that the higher range of the cost of debt might be appropriate, pushing the cost of equity below 4% and narrowing our range even further.

Comparison to other sectors

Although there are some unique features of the TTT project and its regulatory framework (see below), the project shares many common features with standard price control regimes that apply in other sectors:

- allowed revenues will be set using the concept of a RCV and a building block methodology;
- the IP will face a cost sharing (equity) incentive between outturn costs and target construction costs; and
- under its licence, the IP has the right to appeal regulatory decisions to the Competition and Markets Authority (CMA).

The key differences between the IP’s commercial and regulatory arrangements and those of other regulated companies in the UK are:

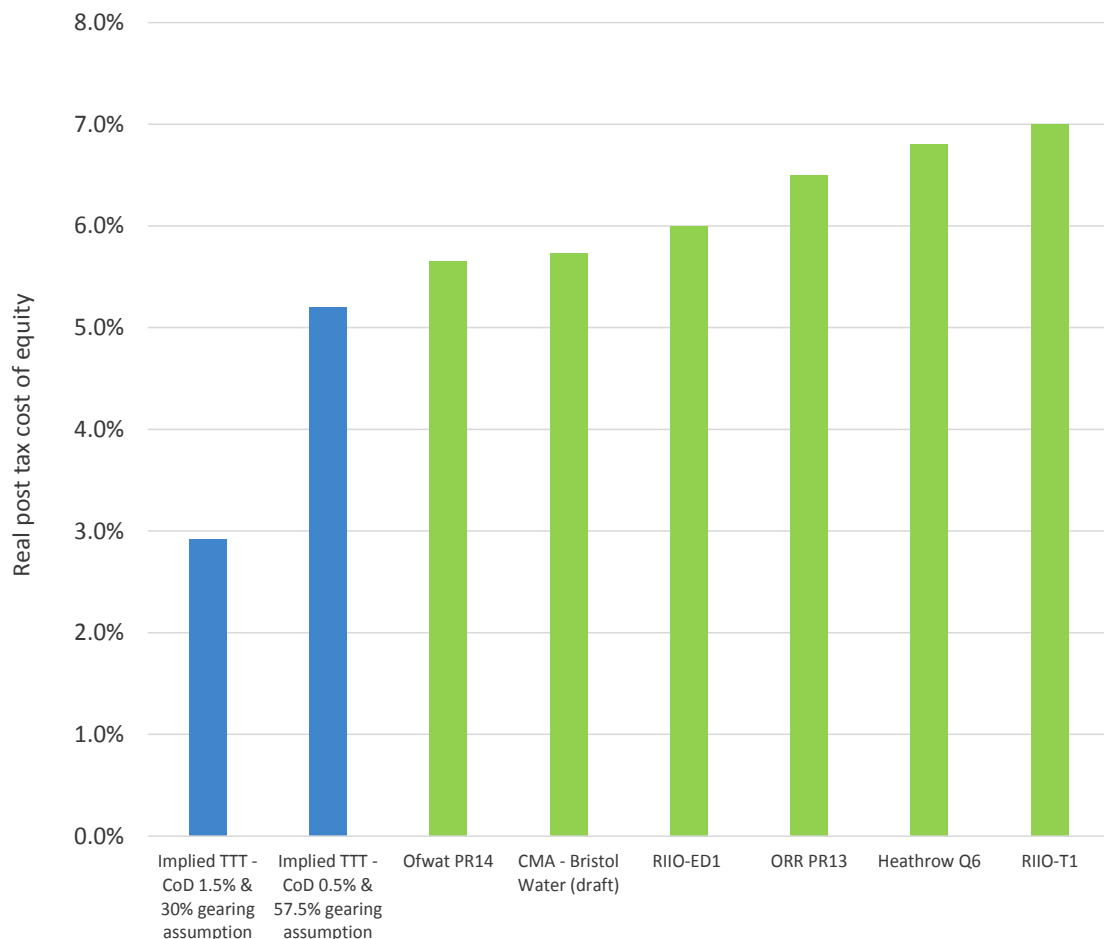
- TTT is a single project with the risks of the construction programme ring-fenced within the IP company;
- there are elements of the commercial framework that may mitigate the extent of construction risk for the IP and its investors (e.g. the GSP); and
- with the BWACC fixed through the competitive appointment process, investors have certainty over some elements of cash-flow for up to 15 years (PR29).⁶

⁶ Under RIIO (the price control regulatory framework for onshore energy networks in Great Britain) of course, the allowed cost of equity is fixed for eight years and, therefore, the control period is a similar time period as the expected construction period for the TTT.

The construction period BWACC will also partly reflect investors expected returns over the full licence period and consequently the implied cost of equity in the construction period will be a function of the expected *allowed* return in the operational period.

In Figure 1 below we have compared the implied cost of equity from our scenario analysis to recent regulatory determinations on the cost of equity.

Figure 1 – Comparison of TTT implied cost of equity with regulatory determinations



Source: CEPA analysis

Summary and implications

Ofwat’s announcement has provided an important data point. While it is always dangerous to generalise from one specific event, there are clearly some important lessons here. First and foremost, a significant equity investment is being made at what appears to be low rates of return compared to traditional perceptions of equity investor requirements. What has driven this low cost of equity? The fixed nature of the deal to 2030 – this would be in-line with the experience in the electricity sector with offshore transmission deals – or elements of the regulatory and guarantee package? It is likely both played a role.

Alternatively, a driver for the low value could be the competition for the project forcing bidders to move away from the longer-term value used by regulators and moving much more towards a spot rate of equity. Effectively taking the CMA's Northern Ireland Electricity (NIE) transmission and distribution decision⁷ even further away from the long-term average. If this is the case, the assumption made by the bidders about how the cost of equity will be set from PR29 onwards becomes very important for them.

While the cost of capital appears low, it would be expected that there would be a construction premium in the value. The size of the construction premium is something that many regulators are starting to have to grapple with – CAA for the new runway in the South East and Ofgem with its Competitively appointed transmission owners (CATOs). There are several ways in which a construction premium could be backed out of our estimate of the cost of equity. What is likely is that the premium will be low compared to previous estimates.

We would be interested in hearing from anyone who would like to pursue:

- Ways in which the construction premium could be inferred from this latest piece of information? And
- What has driven this rate?

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⁷ CMA (2014): 'NIE price determination – final determination'