

TW-RR-A2 Finance and Financeability



Table of contents

Glossary		
Section 1	Overv	/iew7
	А	Introduction7
	В	Document structure
Section 2	Divide	ends and dividend policy9
	А	Introduction
	В	Dividends9
	С	Dividend policy
Section 3	PAYG	and RCV run-off rates
	А	Introduction
	В	Wholesale totex recovery – pay as you go percentage 15
	С	Wholesale totex recovery – RCV run-off rates
Section 4	Actua	I capital structure – performance and financeability assessment
	А	Introduction
	В	Financial performance summary24
	С	Financeability assessment – actual structure
Section 5	Notio	nal financeability assessment
	А	Summary
	В	Approach to financeability for the appointed business – key principles 38
	С	Appointed business – notional company assumptions
	D	Notional financeability assessment
	Е	Returns for each price control
	F	Wholesale water network plus
	G	Wholesale water resources
	Н	Wholesale wastewater network plus
	I	Wholesale wastewater TTT price control
	J	Wholesale bioresources
	K	Retail household
	L	Appointed business
	Μ	Scenario analysis: combined scenarios



Section 6	RO	RORE					
	А	Introduction	54				
	В	RORE range	56				
Section 7	Fina	ancial resilience	58				
	А	Introduction	58				
	В	Demonstrating efficient access to capital markets	59				
	С	Subordinated (Class B) debt funding	62				
	D	Degearing plans – new Holdco debt funding and TWUL cash injections	63				
	E gov	Impact of existing Holdco debt on TWUL – contractual ring-fencing and ernance protections	64				
	F	Assessment of financial resilience	67				
	G	Other	70				
Section 8	Fina	ancial model	72				
	А	Introduction	72				
	В	Inflation	72				
	С	Basis of accounting	73				
	D	Taxation	73				
	Е	Impact of AMP6 adjustment mechanisms	74				
	F	Thames Tideway Tunnel infrastructure provider revenue	75				
	G	Overview of financial modelling	76				
	н	Ofwat PR19 financial model	76				
	Ι	Thames Water financial model	85				



Glossary

Term	Description
AMP5	Asset Management Planning period 5, from April 2010 to March 2015 inclusive
AMP6	Asset Management Planning period 6, from April 2015 to March 2020 inclusive
AMP7	Asset Management Planning period 6, from April 2020 to March 2025 inclusive
APR	Annual Performance Report
Capex	Capital Expenditure
CFR	Corporate family rating
CIS	Capital Expenditure Incentive Scheme. Mechanism used by Ofwat to set expenditure assumptions and associated rewards or penalties for out- or under-performance in AMP5
Counters Creek	The sewerage catchment which straddles the border of the London Boroughs of Hammersmith and Fulham and Kensington and Chelsea
СРІН	Consumer Prices Index including housing costs
Data Table(s)	Information required by Ofwat in standard form to accompany business plans
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciation and amortisation
EoD	Event of Default
FFO	Funds from operations, being cash flow from operational activities, excluding movements in working capital
GSM	Gearing Sharing Mechanism – sharing financial outperformance associated with gearing in excess of the notional structure
IAP	Initial Assessment of Plans (issued by Ofwat in January 2019 in response to company business plans)
ICR	Interest cover ratio
IFRS	International Financial Reporting Standards
INED	Independent non-executive director
LTVS	Long-term financial viability statements



NPV	Net Present Value
ODI	Outcome delivery incentive
Ofwat	Short form of The Water Services Regulation Authority
Opex	Operating Expenditure
P10 and P90	The P10 and P90 are points on a risk distribution. For the P10 (high case) and P90 (low case) risk scenarios presented there would be a 20 percent chance of the key risk factor(s) falling outside of the P10 and P90 assumptions used for the scenario.
PAYG	Pay-as-you-go percentage (or rate) which is applied to totex to determine how much is recovered from customers within the price control and how much is deferred into the RCV to be recovered in future AMP periods
PC	Performance Commitment
PMICR	Post maintenance capex interest cover ratio, a financial ratio comparing operating cash flows less regulated depreciation to net cash interest costs.
PR09	Price review conducted in 2009 by Ofwat for the period 2010-15
PR14	Price review conducted in 2014 by Ofwat for the period 2015-20
PR19	Price review being conducted Ofwat for the period 2020-25
RAGs	Regulatory Accounting Guidelines, issued by Ofwat for purposes of standardised industry reporting through regulatory accounts published in the Annual Performance Report
RAR	Regulated Asset Ratio, calculated as Net Debt outstanding divided by RCV
RCF	Retained cash flow
RCV	Regulatory Capital Value. The value of the capital base for the purposes of setting price limits
RCV run-off rate	A rate applied to the RCV to determine how much is recovered from customers within the price control
ROCE	Return on Regulated Equity
RORE	Return on Capital Employed
RPI	Retail Price Index
SIM	Service Incentive Mechanism
SPV	Special purpose vehicle
TIS	Total Expenditure Incentive Scheme. Mechanism used by Ofwat to set expenditure assumptions and associated rewards or penalties for out- or under-performance in AMP6
Totex	Total Expenditure (comprising Capex and Opex)
TTT	Thames Tideway Tunnel



TTT IP	Thames Tideway Tunnel Infrastructure Provider, namely Bazalgette Tunnel Limited
TWUHL	Thames Water Utilities Holdings Limited
TWUL	Thames Water Utilities Limited
WACC	Weighted Average Cost of Capital
WBS	Whole Business Securitisation
WRFIM	Wholesale revenue forecasting incentive mechanism, a financial incentive for companies to make accurate forecasts for wholesale revenue, ensuring under and over-recovery is reconciled.



Section 1

Overview

A Introduction

- 1.1 The purpose of this document is to provide additional information and evidence in support of the summary financial impacts, assumptions and assessments set out in our April Business Plan, supporting Section 4 of TW-RS1-Building a Better Future: Our Response to Ofwat's Initial Assessment of Thames Water's PR19 Business Plan.
- 1.2 In reporting upon the financial implications of our plan, we do so on the basis that Ofwat's efficient totex allowance matches our plan and that all other plan components, including our PCs, ODIs and financial outperformance package are accepted without intervention. We then test the resilience of our plan and the potential range of risk and reward by reference to severe but plausible (and in some cases, extreme) variations to those planned assumptions.
- 1.3 Within each section we summarise the position adopted in our September 2018 plan, Ofwat's IAP response and any associated action points, together with our view of Ofwat's position and how we have taken into account that feedback within our April 2019 plan.
- 1.4 This document builds upon Appendix 6 Risk and Return, and CSD009–PR19–Finance and Financeability from our September 2018 Business Plan, in which we set out our approach and methodology to key financial issues. Here we report on changes to our approach by exception. Key financial outputs of our updated plan, together with financeability and long term viability testing, are provided in full.
- 1.5 A separate appendix covers our assessment of fair returns¹ and reference should be made to the complete suite of April 2019 plan documents which explain the components of our updated plan in more detail, together with the PR19 April 2019 data tables and table commentaries which accompany our plan. All numbers are expressed in 2017/18 prices unless otherwise stated.

¹ TW-RR-A3 – WACC: case for increased uncertainty



B Document structure

- 1.6 This document is structured as follows:
 - Section 2 provides the basis of our dividend assumptions for the appointed business and signposts the dividend policy which underpins our plan;
 - Section 3 sets out our approach to setting PAYG rates, regulatory depreciation and RCV run-off for each price control, together with our rationale for making adjustments;
 - Section 4 summarises the expected financial performance of the appointed business in total, based on our actual capital structure and assesses the financeability of the plan on this basis by reference to key credit ratios;
 - Section 5 sets out our assessment of overall financeability of the Company on a notional balance sheet basis, including scenario analysis, together with a review of returns associated with each price control;
 - Section 6 sets out the risk and reward balance of our April Submission using RORE analysis;
 - Section 7 provides an overall assessment of the financial resilience of our plan, on a basis consistent with that which underpins our LTVS; and
 - Section 8 covers other key assumptions within the financial model, including inflation, accounting policies, tax and other comments relating to the Ofwat financial model.



Dividends and dividend policy

A Introduction

2.1 This section sets out our planned distributions by the appointed business in AMP7, followed by reference to our planned dividend policy, which establishes the basis upon which actual payment of dividends will be assessed.

B Dividends

Summary of our September 2018 business plan

- 2.2 In our September 2018 business plan, we noted that our shareholders have a critical role in enabling this investment, with billions of pounds of capital invested in the equity of Thames Water, and it is important that as a healthy and resilient business we are able to pay dividends. Ofwat's "Back in Balance" position statement² identifies 5% as a reasonable level for the base dividend yield. We agreed that 5% is currently an appropriate level for the water sector, which allows our shareholders who are primarily pension funds, to continue to invest in us with a view to earning reasonable returns over the long term to pay the pensions of their members.
- 2.3 The Board of Thames Water decided to include a lower dividend level in our plan than the 5% benchmark noted above, specifically to fund de-gearing. Our September plan assumed for the appointed business net annual cash dividends of c. £80m (equating to a cash yield of c.2% based on the average regulated equity value of £3.8bn over AMP7).
- 2.4 Distributions to external shareholders were expected to be £20m per annum over the period.

Our April 2019 plan

2.5 Our April 2019 Plan assumes similar dividend restraint. For the appointed business we factor in net annual cash dividends of c.£75m (calculated as the gross dividend of c. £105m

² Putting the sector in balance: position statement on PR19 business plans, Ofwat (July 2018)



per annum which is immediately offset by interest income of c.£30m per annum)³, equating to a net cash yield of just over 2% based on the average regulated equity value of £3.4bn over AMP7. The table below shows the profile of our dividends across AMP7.

£m, outturn prices	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 Total
Gross appointed dividend ⁴	102.9	103.7	105.4	103.6	103.4	519.0
Less: Intercompany Ioan interest	27.7	28.5	30.2	28.4	28.2	143.0
Net cash dividend	75.2	75.2	75.2	75.2	75.2	376.1
Net dividend yield	2.6%	2.4%	2.2%	2.0%	1.9%	2.2% ⁵

Table 1: Thames Water appointed business dividend projection for AMP6

Source: Ofwat financial model and Thames Water analysis, numbers may not add due to rounding

- 2.6 Shareholders have fully supported this reduction in dividends. Our shareholders' investment funds will receive only £20m p.a. of this pay out, with the rest supporting our plans to raise capital outside the ring-fence in order to degear as described in Section 7D below.
- 2.7 Our plan represents a continuation of our approach to dividends in AMP6. We have already substantially limited our dividend pay outs in AMP6. As shown in the charts below, in the first three years of AMP6:
 - Our average dividend yield was 3.0%⁶ the second lowest yield among the WASCs, and equivalent to a yield of only 1.4% on an actual returns / notional regulated equity basis;
 - Our dividends accounted for just 5.1% of total sector dividend payments during this period compared with our RCV contributing 18.6% to sector RCV; and
 - Thames is one of only two WASCs to have paid a dividend lower than Ofwat's 4% assumed dividend at PR14 on an 'actual returns / notional regulated equity' basis and on an 'actual returns / actual regulated equity' basis during this period.

³ See Table 1. This is the methodology used in the dividend yield benchmarking in Ofwat's "Monitoring Financial Resilience"

⁴ See TW-DT01-PR19 April 2019 Data Tables App11, Line 17

⁵ AMP7 average net dividend yield

⁶ All numbers in this and the subsequent paragraph and the charts below are taken from Ofwat's "Monitoring Financial Resilience 2017-18" and supporting spreadsheets





Figure 1: Dividend yield comparison

Source: "Monitoring Financial Resilience 2017-18", Ofwat (January 2019)

Figure 2: Dividend yield compared to RCV



Source: "Monitoring Financial Resilience 2017-18" and supporting spreadsheets, Ofwat (January 2019)





Figure 3: Net dividend yield comparison

Source: "Monitoring Financial Resilience 2017-18", Ofwat (January 2019)

2.8 Our dividends will be further reduced in the last two years of AMP6, in the light of our shareholders' decision to further increase investment. Our shareholders' investment funds will receive no distributions during this period, as a result of which our new shareholders will not receive dividends for at least the first three years of their ownership, underlining their commitment to the long-term vision of our business.

C Dividend policy

Summary of our September 2018 business plan

- 2.9 Our September 2018 business plan set out the parameters of a new dividend policy, with the full support of shareholders, which had the following key features:
 - Payment of a proposed dividend should not impair short term liquidity or compliance with our covenants.
 - Payment of a proposed dividend should not impair the longer term financeability of the company's business.
 - Assessment of the impact that payment of the dividend may have on all stakeholders including employees, pension members and customers.



- Our financial performance, that underpins the opportunity to pay the dividend, is as a result of operational performance that meets the level required of a supplier of essential services.
- If a net dividend is declared above Ofwat's 5% dividend yield guidance, applied to
 Ofwat's notional company, the Board will consider whether the additional returns result
 from performance (including progress towards degearing) that has benefited customers
 and may therefore reasonably be applied to finance a dividend.
- 2.10 We also said that when shareholder returns are paid, we would be clear about their level, how they relate to delivery for customers and why they have been awarded.

Thames' reaction to Ofwat's IAP

- 2.11 Ofwat's IAP requires the company to "confirm that it is committed to adopt the expectations on dividends for 2020-25 as set out in 'Putting the sector in balance' to include:
 - a commitment to transparency about how the dividend policy in 2020-25 takes account of obligations and commitments to customers for the dividend policy that is applied in 2020-25 and when determining dividends."
- 2.12 We are asked to provide an update on the steps we are taking to fully meet the expectations as set out in Ofwat's putting the sector in balance position statement.
- 2.13 In response, we have reviewed and further clarified our planned dividend policy for the 2020-2025 period as set out in TW-RS1-Building a Better Future: Response to Ofwat's Initial Assessment of Thames Water's PR19 Business Plan.



Section 3

PAYG and RCV run-off rates

A Introduction

- 3.1 This section sets out our approach to setting the PAYG and RCV run-off rates for each price control. For each of these levers, we set out the 'natural rate' followed by an explanation of any adjustments which we have made and how these are supported by customers.
- 3.2 We also set out the key assumptions which underpin each element of the regulated revenue building blocks, structuring the section as follows:
 - Subsection B sets out the underlying bases of totex recovery, explaining how we have set our PAYG percentages; and
 - Subsection C explains how we have set the run-off rates, including any adjustments to reflect the transition from RPI to CPIH, and other adjustments associated with affordability and/or notional financeability.

Summary of our September 2018 business plan

- 3.3 In setting PAYG and RCV run-off rates in our September 2018 plan, we adopted an approach which is fully consistent with Ofwat's methodology,⁷ the key points being:
 - To set an initial "natural rate";
 - To adjust the run-off rate to reflect customer preferences with regard to the effects of the transition from RPI to CPIH;
 - To take account of the impact of the change in approach to account for operating leases (under IFRS 16) on revenues and customer bills; and
 - To meet customers' preferences on bill profiles.

⁷ Delivering Water 2020: Our final methodology for the 2019 price review, Ofwat (December 2017) – Chapter 11



3.4 We made no adjustments to PAYG or run-off rates on the grounds of financeability, on the basis that that our plan was financeable on the notional balance sheet at BBB/Baa2 and that alternative mechanisms existed which would allow the notional structure to achieve our target rating of BBB+/Baa2.

Thames' reaction to Ofwat's IAP

- 3.5 Ofwat's IAP noted that overall, Thames Water's business plan contained sufficient and convincing evidence to support its choice of PAYG and RCV run-off rates. The following areas of the plan were noted as being of high quality:
 - The company's PAYG rates were supported by sufficient and convincing evidence. No adjustment to PAYG rates was proposed;
 - The company's starting points for RCV run-off rates were supported by sufficient and convincing evidence;
 - The company proposed adjustments to RCV run-off rates to remove the additional revenue from the transition to CPIH, the impact of changes to lease accounting, and to smooth bills during the period. Overall, the business plan contained convincing evidence to support the adjustments and evidence that this is in line with customer preferences; and
 - Overall, there was sufficient and convincing evidence that the resulting bill profile was supported by customer preferences and there was evidence that bills are consistent with customers' preferences for 2020-25.
- 3.6 Ofwat's IAP also observed that while the company noted the uncertainties associated with possible bill profiles beyond 2025, it had not demonstrated how bills beyond 2025 are consistent with customer preferences. However, this was not material to the overall assessment.
- 3.7 We set out below the approach we have adopted within our April Submission, which follows that which we adopted in September.
- 3.8 Given the revised totex in our April Submission, the bill profiles associated with the natural rates are different from those in the September Submission. We have therefore made adjustments to the totex levers (particularly attenuating the CPIH transition adjustment to the run-off rates) to ensure the projected bill profiles over AMP7 and AMP8 remain in line with our customers' preference for a stable bill.

B Wholesale totex recovery – pay as you go percentage

3.9 Pay as you go (PAYG) rates are shown in PR19 April 2019 data tables Wr4, Wn4, WWn6, Bio5, and Dmmy8.



- 3.10 The natural rate is updated to reflect our revised totex plan, and calculated as the Opex (excluding pension deficit repair (PDR)) divided by Totex (excluding PDR). Opex reflects the gross opex less the grants and contributions that relate to opex.
- 3.11 We are not proposing any adjustments to the natural rate for PAYG, so "adjustments to PAYG rate to address transition from RPI to CPI" and "other adjustments to PAYG rate" are zero. (See run-off rate analysis for details of adjustments).

C Wholesale totex recovery – RCV run-off rates

Overview

- 3.12 RCV run-off rates are shown in PR19 April 2019 data tables Wr4, Wn4, WWn6, Bio5, and Dmmy8.
- 3.13 The natural rate is estimated so that the regulated depreciation reflects the current cost depreciation associated with each element of each price control.
- 3.14 Transition from RPI to CPIH: The CPIH-basis WACC is higher than the RPI-basis WACC. With no adjustment, this would generate a higher revenue (in initial AMPs), associated with the CPIH-basis RCV. Bill profiles are initially considered with the full amount of this additional revenue reversed, through a reduction to the CPIH-basis run-off rate (for simplicity, a single adjustment is applied, to the 2020 CPIH RCV run-off rate for water resources, bioresources and TTT, and to the combined 2020 CPIH RCV and post-2020 investment run-off rate for water network plus and waste network plus). Once the implied bill profiles on this basis are identified, this adjustment is reconsidered, and is reversed, to some extent, to generate the optimally smooth customer bill profile over the long term.
- 3.15 Two further adjustments are applied, which are combined to reflect the 'other adjustments'
 - An adjustment is applied to the run-off rates to ensure that the IFRS16 lease adjustment for existing leases does not result in any changes to revenue. An equal adjustment is applied to RPI and CPIH run-off rates; and
 - Water and Waste revenues are then reprofiled using the RPI-basis network plus run-off rates, to generate an appropriate customer bill profile.
- 3.16 In general, we use the 'reducing balance' approach to calculations, although noting that the choice of calculation approach has limited relevance, when the rate varies each year. Reducing balance, rather than straight line, is chosen, as for RCV run-off, the level of regulatory depreciation should reduce each year, as each year assets become fully depreciated, and only reducing balance generates this profile, for a constant run-off rate.
- 3.17 The only exception to this is for the TTT price control, for post-2020 additions. The reducing balance calculation in the PR19 financial model cannot correctly calculate depreciation where total post-2020 additions are negative. As this is the case for the TTT price control



(due to the TTT land disposals forecast to occur towards the end of AMP7), then the straight line approach is used.

- 3.18 Water resources, bioresources and TTT include three separate run-off rates, associated with the following components of RCV:
 - Pre-2020 RPI-basis RCV;
 - Pre-2020 CPIH-basis RCV; and
 - Post-2020 CPIH-basis RCV.
- 3.19 Water network plus and wastewater network plus only include two separate run-off rates, associated with the following components of RCV:
 - Pre-2020 RPI-basis RCV; and
 - Combined CPIH-basis RCV (pre-2020 CPIH-basis RCV plus post 2020 CPIH basis RCV).
- 3.20 In our analysis and derivation of run-off rates, we consider the three components separately for all price controls. For the network plus price controls we then combine the two CPIH-basis run-off rates, so as to give the same total level of regulated depreciation.

Natural rate

3.21 The approach taken is to estimate the current cost depreciation (CCD) associated with each element of the price control, and then set the run-off rate so as to generate that level of regulatory depreciation, given the opening RCV and slow money additions.

Pre-2015 expenditure

3.22 Our estimate of CCD associated with pre-2015 expenditure is unchanged compared to our September 2018 business plan.

AMP6 expenditure (2015 – 2020)

- 3.23 Our approach to estimating the CCD associated with AMP6 capex is in line with our approach for the September 2018 plan.
- 3.24 We have updated the calculation to reflect our revised view of AMP6 expenditure. The projected increase in AMP6 expenditure causes the overall natural run-off rate of opening AMP7 RCV for water and wastewater to increase slightly, as shown in the table below.



AMP7 natural run-off rate of opening AMP7 RCV	September 2018 business plan	April 2019 business plan	Delta
Water	3.80%	3.97%	0.16%
Wastewater (excluding TTT)	5.14%	5.17%	0.04%

Table 2 Water and Wastewater natural run-off rates of opening AMP7 RCV

Source: Thames Water analysis

3.25 When converting the expected CCD into a natural run-off rate, we have calculated specific natural rates for each year, to match the projected CCD profile. This is a more precise approach than our September 2018 business plan, which used a constant natural run-off rate for each year within the AMP, generating the correct CCD in total over the AMP.

AMP7+ expenditure

- 3.26 CCD associated with post-2020 capex, is estimated using the revised underlying capex forecast (as identified in WS1, WWS1, and Dmmy1, and also including the estimated capex forecast for AMP8), allocated to asset life categories.
- 3.27 The capex and asset lives are converted into CCD using the same calculation as identified in Ofwat's PR14 financial model, assuming 50% of a full year's depreciation is incurred in the year of spend (in line with our approach for the September 2018 plan).

TTT

- 3.28 Regulatory depreciation associated with the TTT is included from the estimated date of system acceptance, so customers are not paying for the use of the TTT before it is generating benefits (although note that customer bills will still include the financing costs associated with the accumulated TTT RCV before that date).
- 3.29 System acceptance is currently estimated to be in March 2027, so the first year of TTT regulatory depreciation is forecast to be 2027/28. This is calculated as the TTT RCV at that March 2027, less the estimated land value within the RCV at that date, spread over 120 years (the estimated life of the TTT). This corresponds to regulatory depreciation of £8m a year from 2027/28.
- 3.30 This approach is in line with our approach for the September 2018 plan.

Transition from RPI to CPIH

3.31 Based on the Intergenerational Fairness Customer Research (undertaken by BritainThinks, September 2016), our customers prefer the current RPI-based revenue profile. Our initial approach is therefore to reverse the full amount of the additional revenue due to the CPIHbasis WACC being higher than the RPI-basis WACC.



- 3.32 However, the same piece of customer research analysis also concluded "responses to bill profiles showed that customers overwhelmingly value consistency above all else"⁸.
- 3.33 This approach to the transition from RPI to CPIH profile is an interim step, which is then reviewed once the final bill profiles emerge, to ensure the overall longer-term bill profile is in line with our customer preference for a stable bill.
- 3.34 As the adjustment relates to the transition to CPIH, then the revenue is reversed through a reduction CPIH-basis run-off rates, i.e. affecting the CPIH-basis RCV. For simplicity, a single adjustment is applied, to the 2020 CPIH RCV run-off rate for water resources, bioresources and TTT, and to the combined 2020 CPIH RCV and post-2020 investment run-off rate for water network plus and waste network plus.
- 3.35 For modelling purposes, no additional transition of RCV to from RPI to CPIH is assumed to occur at the start of AMP8. Given that any additional WACC from any such additional transition may be reversed out through the run-off rate, this assumption is not expected to have any material impact on AMP8 customer bills or financeability.

IFRS16 adjustment for existing leases

- 3.36 We have followed the same approach as in our September 2018 business plan, making a small adjustment to the run-off rates to ensure that the change in accounting standard does not affect customer revenue.
- 3.37 As these are applied to the opening RCV, we apply an equal adjustment to RPI-basis and CPIH-basis run-off rates of 2020 RCV.

Review of RPI-CPIH transition adjustment, and further reprofiling

- 3.38 The blue line in the charts below show the implied bill profiles based on the natural run-off rates, reversing the full amount of the additional revenue due to the CPIH-basis WACC being higher than the RPI-basis WACC.
- 3.39 This bill profile appears inconsistent with our customers' preference, for a stable bill:
 - "Responses to bill profiles showed that customers overwhelmingly value consistency above all else";
 - "Across the generations customers tended to prefer the scenarios with the least amount of change to the status quo";
 - "Customers spoke of 'not liking surprises' and wanting to be able to plan effectively";

⁸ TSD019-CR19 Intergenerational Fairness, BritainThinks, October 2016; See also TW-CSE-A1- What customers want v13



- "The majority of customers said that they would still prefer to have consistency rather than a short term reduction in bills"; and
- "Bills which change frequently are viewed with mistrust."9
- 3.40 We have therefore adjusted the totex levers to ensure the bill profile is more in line with customer preference for a stable bill. We have used the following approach.
- 3.41 **Transition from RPI to CPIH adjustment**: We have removed the adjustment to run-off rates in AMP7, i.e. following this adjustment, the AMP7 profile reflects the natural rate using the higher CPIH-basis WACC. Over AMP8, we have included the adjustment again in a phased approach, so that 100% of the adjustment to remove the higher CPIH-basis WACC is included by the end of AMP8. This generates the orange line in the charts below. This approach ensures that we close AMP8 with a bill profile that is in line with the natural rate, on an RPI-WACC basis, thus minimising the risk of future step changes in bills thereafter.
- 3.42 **AMP7 reprofiling**: To ensure the bills are as stable as possible, we have made a reprofiling adjustment on an NPV neutral basis within AMP7. For simplicity we have just adjusted the RPI-basis run-off rates for the water network plus and waste network plus price controls, as these are sufficient to reprofile the overall water, wastewater and combined average household bills. The reprofiling has been done on an NPV neutral basis, i.e. such that the AMP7 revenue requirement before and after reprofiling is unchanged in NPV terms.
- 3.43 **Additional reprofiling:** After the adjustments above, average household combined bills remain flat until 2028/29, with a c.£4 increase in bills (1%) in 2029/30. We have made a final adjustment to our totex levers (water network plus RPI run-off rate) to reduce the allowed revenue in 2029/30 to ensure average household combined bills remain flat over AMP8. Given the small value of this adjustment, we do not consider that it materially increases the risk of a step-up in bills beyond 2030. This generates the green line in the charts below, which follows as closely as possible our customers' preference for stable bills.

⁹ All quotes from TSD019-CR19 Intergenerational Fairness, BritainThinks, October 2016; See also TW-CSE-A1- What customers want v13







Source: Thames Water analysis





Source: Thames Water analysis







Source: Thames Water analysis

Notional Financeability

- 3.44 The implied notional ratios in our April 2019 plan remain below our target notional rating of BBB+/Baa1.
- 3.45 We have considered whether to use the totex levers (run-off rates and / or PAYG) to improve the notional ratios, in order to achieve the target notional rating of BBB+/Baa1. Increasing the revenue in this way would improve key notional ratios, ensuring a notionally financed company could finance itself at the notional cost of capital.
- 3.46 However, in order to keep customer bills as low as possible, we have chosen not to make further adjustments to the run off rates or PAYG parameters to improve notional financeability. Section 5 discusses notional financeability further, including other approaches to improving notional ratios.



Section 4

Actual capital structure – performance and financeability assessment

A Introduction

- 4.1 This section reviews the expected financial performance and financeability of the company on an actual balance sheet basis in the context of our April 2019 plan. It focuses on the key components and issues underpinning the projections, which are based on modelling of the company's position as if it was a stand-alone company.
- 4.2 The projections in our April 2019 plan are consistent with the output of the Ofwat financial model and the PR19 April 2019 data tables submitted with this plan.
- 4.3 Our projections are underpinned by a 2.3% vanilla WACC assumption for the wholesale business as set out in Ofwat's PR19 final methodology as its early view¹⁰, a 1% retail household margin together with the other key assumptions for totex, tax, AMP6 adjustments and inflation factors as set out elsewhere in this document.
- 4.4 Our plan is based on the financial accounting policies outlined in Section 8C being based on Regulatory Accounting Guidelines which are consistent with full IFRS with specific notified exceptions (relating to capitalised interest, revenue recognition and financial derivatives).
- 4.5 This section is structured to first consider the expected financial performance during the 2020 to 2025 period, and then to assess the financeability of our April 2019 plan on the actual capital structure. In each case, we summarise the position set out in our September 2018 plan, any comments Ofwat made within its IAP and how we have taken these into account in our April 2019 assessment.
- 4.6 In Section 5 we consider financeability on a notional balance sheet basis.
- 4.7 We summarise in the table below how we have assessed the financeability of our plan and the components of that plan, and where in this document those assessments have been documented.

¹⁰ Delivering Water 2020: Our final methodology for the 2019 price review. Ofwat, December 2017 – Section 10



Table 3 Financeability assessment of the plan

Appointed business – based on the company's actual capital structure	Financial performance	Section 4B
Appointed business – based on the company's actual capital structure	Key financial ratios, overall financeability assessment (actual)	Section 4
Appointed business – based on a notional capital structure	Key financial ratios, overall financeability assessment (notional)	Section 5
Individual price controls	Assessment of returns	Section 5E

- 4.8 In addition to understanding financial performance and the overall financeability of our plan, it is also essential to understand and demonstrate how we have balanced risks and rewards across our plan between our customers, the company and its shareholders. This is central to the overall construction of the plan and how we have designed and developed the output incentives to complement the known features of the regulatory regime in AMP7.
- 4.9 Accordingly, we have set out our balance of risk and reward in Section 6. In that section we also explain where we have updated our approach to risk, the results of our scenario analysis and how we share risk overall with our customers.

B Financial performance summary

- 4.10 The financial results quoted in this section are in outturn prices, unless otherwise stated, consistent with the method used to assess financeability of the plan.
- 4.11 As noted in Section 3, we have sought to utilise the flexibility provided by the totex cost recovery mechanisms within the wholesale price controls, to smooth the overall impact on customer bills of the entirety of our plan across AMP7 and AMP8.

Summary of our September 2018 business plan

4.12 In our September 2018 business plan, we reported on financial performance against a suite of metrics including revenues, pre- and post-tax return on operating profit and pre-tax profit. We noted that negative profits before tax to be primarily driven by the effects of the real/nominal mismatch where, due to the nature of the regulatory regime, the company was incurring significantly more interest costs (paid in nominal terms, at 4.36%¹¹) than it earns in

¹¹ Nominal interest cost in WACC, per PR19 September 2018 Data Table App32, line 15



revenue from customers who pay in real terms (on an inflating RCV, at 1.33%¹² on an RPIstripped basis which we reflected in revenues post RCV run-off adjustment) during AMP7.

Thames' reaction to Ofwat's IAP

4.13 Ofwat's IAP contained no actions relating specifically to how we report on financial performance in our business plan. It did set out actions relating to our actual financeability and RORE assessments, which we address later in this document.

Our April 2019 plan

- 4.14 Overall projected revenues for the appointee rise from £2,111m in the first year of AMP7 to £2,486m by 2024/25 (in outturn prices¹³). The key driver for this increase is CPIH linkage of wholesale revenues.
- 4.15 The changes in our overall levels of totex, being operating expenditure plus our ongoing high level of capital investment within the wholesale business, drive the majority of the revenue requirement and enable smoothing mechanisms to be applied.
- 4.16 A key underlying assumption in our revenue requirement is a vanilla wholesale WACC of 2.3% which is 1.3% lower than that assumed at PR09, and which has been used based on Ofwat's final PR19 methodology. This WACC assumption is critical for assessment of the financeability of our plan; on both an actual and notional balance sheet basis (financeability is explored further in Section 4C and Section 5).
- 4.17 Just over £13m of corporation tax¹⁴ is payable during the AMP7 period, taxable profits being offset by high levels of capital allowances a function of our significant investment programme and the shielding effects of our interest costs on the actual capital structure.
- 4.18 Revenues for AMP7 also reflect the operation of the various correction and incentive mechanisms which operated with regard to AMP6 performance. These adjustments have been updated based on our April 2019 PR14 reconciliation submission as discussed in Section 8E. Broadly, the upward impact in AMP7 of the AMP6 Totex Incentive Scheme (TIS) and WRFIM rewards are more than offset by the downward impact of the AMP6 ODI penalties, additional leakage penalties, blind year (2014/15) true ups and our estimated

¹² Being RPI-stripped real cost of debt component of Ofwat's 2.3% real RPI-stripped cost of capital, per Table 10.2 of the Ofwat PR19 final methodology (December 2017)

¹³ TW-DT01-PR19 Data Tables App11 (line 1)

¹⁴ TW-DT01-PR19 Data Tables App11 (line 14)



outcome under the Service Incentive Mechanism (SIM) to give a net reduction in revenue of \pounds 92m in 2017/18 prices¹⁵.

- 4.19 Changes to revenues are principally driven by the associated cost drivers, with operating costs and depreciation being a function of the total expenditure. However, it is important to note that the revenue requirement is driven off the operation of the totex pay-as-you-go percentages and RCV run-off rates, the latter being adjusted to effect a smooth overall bill profile over AMP7 and AMP8 whereas, operating costs and depreciation are linked to the accounting treatment of the opex and capex within our plan, hence breaking the direct link between revenues and accounting expenditure.
- 4.20 Compared to our September plan, profits present an increasing profile, reflecting a different profiling of revenues which smooth bills over AMP7 and AMP8. Overall operating profit on an accounting basis (excluding TTT IP revenues) consistent with Table App11 rises from £393m in 2020/21 to £669m (in outturn prices¹⁶) in 2024/25 in order to finance the capital programme.
- 4.21 On an accounting basis, operating profits, pre-tax and post-tax returns would ordinarily be distorted by revenues received on behalf of the TTT IP given that for accounting purposes, the revenues are recognised as turnover within operating profit but there is no offsetting operating cost deduction (instead a prepayment is built up in the balance sheet during the course of construction).
- 4.22 However, Ofwat's financial model makes the necessary adjustments to remove any potential distortion. This treatment reflects that in practice, the IP revenue is a cash neutral item as revenue received is passed to the TTT IP. Once construction is complete and the project enters its operational phase, depreciation and interest costs will commence, causing the position to unwind slowly over time.
- 4.23 The following table shows pre- and post-tax returns, which are very similar given that current corporation tax charges only apply, at modest levels, in the final two years of AMP7.

 ¹⁵ Net impact of £13.7m revenue increase for wholesale per TW-DT01-PR19 Data Tables, App17, line 11 and a £105.9m revenue reduction for retail, as per TW-DT01-PR19 Data Tables R10 line 9 (uplifted to include NPV smoothing adjustment)
 ¹⁶ TW, DT01 PR19 Data Tables, App11 line 6.

¹⁶ TW-DT01-PR19 Data Tables App11 line 6



Table 4: Pre-tax and post-tax returns

Operating returns ¹⁷	2020/21	2021/22	2022/23	2023/24	2024/25
Operating pre-tax returns	2.60%	3.04%	3.32%	3.46%	3.56%
Operating post-tax returns	2.60%	3.04%	3.32%	3.44%	3.51%

Source: Thames Water analysis

- 4.24 Adjusted pre/post-tax returns rise from 2.6% to around 3.5% during AMP7, reflecting a number of factors, including the impact of the revenue profiling referred to above, and the difference between historic cost depreciation reflected in operating profit and the revenue requirement where we have adopted a funding approach under PAYG consistent with sharing the burden between current and future customers, as per the approach adopted at previous regulatory reviews (where current cost depreciation formed part of the revenue building blocks).
- 4.25 The table below shows profits over the period.

Profits, £m outturn	2020/21	2021/22	2022/23	2023/24	2024/25
Profit before tax (PBT)	-131.1	-70.8	9.0	51.0	69.1
Profit after tax (PAT)	-143.6	-78.7	-0.1	41.1	60.6

Table 5: Profit before and after tax

Source: Data Table App11, line 13

4.26 The loss in earlier years is primarily driven by the effects of the real/nominal mismatch where, due to the nature of the regulatory regime, the company is incurring significantly more interest costs (paid in nominal terms, at 4.36%¹⁸) than it earns in revenue from customers who pay in real terms (on an inflating RCV, at 1.33%¹⁹ on an RPI-stripped basis which we reflect in revenues post RCV run-off adjustment) during AMP7. The significant reduction in allowed WACC compared to AMP6 (in particular the cost of equity component) by Ofwat in its 'early view' has severely limited the ability of companies to offset the

¹⁸ Nominal interest cost in WACC, per PR19 April 2019 Data Table App32, line 15

¹⁹ Being RPI-stripped real cost of debt component of Ofwat's 2.3% real RPI-stripped cost of capital, per Table 10.2 of the Ofwat PR19 final methodology (December 2017)

¹⁷ Pre-tax returns calculated as operating profit calculated per TW-DT01-PR19 Data Tables, App11 divided by RCV, using Ofwat financial model (Exec Summary tab) for RCV. Post tax-returns follow the same approach, with current tax per TW-DT01-PR19 Data Tables, App11 deducted from operating profits



real/nominal mismatch in cash and profit terms from revenues provided by customers in the period. This effect should unwind over time, although this may take several AMP periods, therefore it is essential that companies are able to earn and distribute those additional profits at that time. This negative effect is offset to an extent in later years as a consequence of the revenue profiling noted above, in essence, revenues are relatively constant over time as we keep bills flat in real terms across AMP7, but operating costs fall over the same period as the effect of our year on year efficiencies flow through.

- 4.27 Profits also reflect the impact of our interest costs, driving off our actual gearing (which is higher than notional).
- 4.28 Planned dividend payments are fully supported by historical P&L reserves on a statutory basis (such reserves remain broadly unchanged over the plan period, after payment of the planned dividend).
- 4.29 In populating TW-DT01-PR19 Data Tables, App11, we have followed the mapping tool in extracting the deferred tax from the Ofwat PR19 financial model. Our analysis of the deferred tax calculation in the model suggests that the calculation may not appropriately reflect:
 - Deferred tax credit on any tax losses carried forward in each year (c.£45m over the AMP); and
 - Deferred tax credit on TTT pass-through revenue to BTL, not claimed yet, but eligible for relief in future years (c.£70m over AMP7).

C Financeability assessment – actual structure

4.30 It is critical in the context of our funding requirements that we maintain sound financial ratios, retaining investment grade credit quality, consistent with both the terms of our licence and debt covenants.

Summary of our September 2018 business plan

4.31 Under our actual capital structure, our September 2018 business plan generated financial ratios consistent with an investment grade credit rating of BBB+/Baa1²⁰. This view was supported by our expert financial advisors, Evercore, who independently concluded²¹ that the company's business plan was financeable, and estimated the implied credit rating at BBB+ (S&P: Class A debt) and Baa1 (Moody's: Corporate Family Rating ("CFR")) or above.

²⁰ Specifically, a BBB+ rating by S&P for Class A bonds and a Baa1 corporate family rating by Moody's

²¹ Evercore, TSD355-PR19-Financial Covenant 3 and Financeability Assurance (September 2018 submission)



Thames' reaction to Ofwat's IAP

- 4.32 In its IAP, Ofwat noted that "despite some aspects of Thames Water's business plan which are high quality, shortcomings in other aspects mean that it overall falls short of providing convincing and high quality evidence to support the Board's statement that the company is financeable on the notional and its actual company structure."
- 4.33 Ofwat's concern centred on one main area²², contending that there "*is insufficient evidence* that the company is financeable on its actual structure. The company has targeted a credit rating of Baa1 (Moody's). There is insufficient evidence that the level of the financial ratios are consistent with the target credit rating, in particular funds from operations as a proportion of net debt appears weak." Such comments have resulted in an Ofwat action point TMS.LR.A4, part (a) of which states "The company should explain how it has taken account of the risks to its financial resilience associated with [a] its plan to maintain a Baa1 credit rating"
- 4.34 In forming our view on the financeability of our September plan, we sought specific input from Evercore, our expert financial advisor. It considered that our overall business plan was consistent with our current Baa1 (S&P: Class A debt) / BBB+ (Moody's: CFR) rating on the basis of all relevant metrics for our current rating, including but not limited to, FFO to debt²³.
- 4.35 Further, we noted that our consolidated EBITDA/interest ratio is above the 1.5x threshold specified by S&P (averaging 2x in AMP7) and that we would also expect S&P to take into account gearing headroom of 7% to 9% when making its assessment.
- 4.36 In our updated assessment of financeability for our April 2019 business plan below, we include additional evidence from Evercore on how our projected FFO:debt ratio is consistent with our targeted rating of Baa1/BBB+. This is set in the context of an increase in this ratio from our September plan.

Our April 2019 plan

Approach

4.37 As part of its approach to setting price controls for PR19, Ofwat has set out in its final methodology statement²⁴ how it will assess whether the company can finance its functions, in particular by securing reasonable returns on its capital. In this section, Ofwat confirms that it will "assess financeability at appointee level by reference to the notional structure that underpins the cost of capital" and will do so by looking at "aggregated revenues, costs and cash flows across each of the price controls". Ofwat also notes that it will consider

²² Thames Water: Test question assessment, Ofwat, January 2019 – test question RR3

²³ Evercore, TSD355-PR19-Financial Covenant 3 and Financeability Assurance (September 2018 submission)

²⁴ Delivering Water 2020: Our final methodology for the 2019 price review Ofwat (December 2017)



financeability at price control level, undertaking "headroom checks to see whether the activities covered by each of the individual controls (including retail controls) appear financeable in their own right."

- 4.38 We agree with this approach to assessment of the separate controls and have therefore tested and assessed our plan against a range of relevant metrics at both the appointed business and individual price control levels. In addition to assessing the overall price control by reference to the notional company, it is also critical for us to ensure, based on our actual capital structure, that we are able to continue to attract efficient sources of debt and equity finance over the AMP7 period and that we are able to maintain our investment grade credit rating.
- 4.39 In this section, we test our plan on an actual balance sheet basis against the key ratios set out within our covenants, which our rating agencies use to assess credit quality (with current rating levels targeted). In doing so, we specifically address Ofwat's action point TMS.LR.A4 part (a). The remaining parts of TMS.LR.A4 are addressed in Section 7.

Assumptions

- 4.40 In testing for financeability on our actual capital structure, we assume that our business plan costs are in line with Ofwat's assessment of efficient costs for the notional company, delivered in line with performance commitments (a 'neutral' position, with no ODI rewards or penalties).
- 4.41 The primary ratios set out by Ofwat within its PR19 final methodology²⁵ provide a good overall perspective on the financial position of the company. Within its methodology Ofwat notes that it draws on common approaches used in the financial markets and by the credit rating agencies, but does not follow the precise approach of any specific agency.
- 4.42 However, in order to undertake a thorough and meaningful assessment of the financeability of the company on an actual balance sheet basis, it is necessary for us to adopt the precise definitions of the credit metrics used by Moody's and Standard and Poor's in their individual credit rating processes, alongside definitions used within our debt covenants. Accordingly, we focus on these specific ratio definitions in our assessment below.
- 4.43 We include key ratios using Ofwat's definitions in PR19 April 2019 Data Table App10. These provide a broadly equivalent view of actual financeability. However, as noted above they do differ in terms of precise definition, and resultant reported values.
 - Gearing: the standard definition used in PR19 April 2019 Data Table App10 and in the Ofwat PR19 financial model calculates gearing using the RCV in year average prices – closing AMP7 at 78.69%, whereas our covenants (and the Thames Water financial

²⁵ Delivering Water 2020: Our final methodology for the 2019 price review Ofwat (December 2017) – Table 11.1



model) calculate gearing using the RCV in year-end prices – reducing gearing by 0.79%. Our gearing definition also includes the impact of sales of surplus land (i.e. under condition K) – which reduces gearing by a further c.0.21% to give closing gearing of 77.68% on our covenant basis²⁶; and

- Adjusted interest cover and FFO:debt ratio definitions used by the rating agencies differ in treatment of capital contributions and indexation of debt from those adopted in Ofwat's generic covenant definitions.
- 4.44 The impact of the TTT IP billing pass through is neutral in cash terms, hence we anticipate that this will have no overall impact on either our covenants or on how the rating agencies assess the business as, in both cases, ratios are based upon cash flows rather than accounting profits.
- 4.45 For the reasons stated above, we focus on the specific ratio definitions used within our covenants and by our rating agencies within our assessment of financeability on an actual balance sheet basis within the remainder of this section.
- 4.46 True-ups for AMP6 performance comprising a £92m reduction to revenues²⁷ are included in the assessment, as the credit rating agencies assess our business on the basis of our actual cash flows. This contrasts to the methodology which we adopt for the notional balance sheet testing, where we exclude this revenue adjustment in line with Ofwat's guidance.²⁸

Parameters

- 4.47 In the table below, PMICR refers to an adjusted cash interest cover ratio (post maintenance expenditure). We assess ratios by reference to the total amount of debt within Thames Water, which is split between Class A (maximum 75% of RCV) and Class B (sitting above Class A, to a combined maximum of 85% RCV). The combination of Class A and Class B debt is termed Senior. Standard and Poor's (S&P) funds from operations as a proportion of net debt ratio being abbreviated to S&P FFO:debt. Covenant definitions were explained in more detail within our September business plan²⁹.
- 4.48 Target levels, consistent with a rating of BBB+ from S&P for our Class A debt and Baa1 corporate family rating from Moody's, have been defined as follows:

²⁶ Further detail is set out in the Commentary which accompanies PR19 April 2019 Data Table App10

²⁷ Net impact of £13.7m revenue increase for wholesale per PR19 April 2019 Data Table App17 line 11 and a £105.9m revenue reduction for retail, as per PR19 April 2019 Data Table R10 line 9 (uplifted to include NPV smoothing adjustment) in 2017/18 prices

²⁸ Delivering Water 2020: Our final methodology for the 2019 price review. Ofwat (December 2017) -Chapter 11.2, page 191

²⁹ CSD009–PR19–Finance and Financeability, Thames Water, September 2018 – Section 10



- Moody's adjusted PMICR target set by reference to Moody's 22 May 2018 rating action summary which indicates downward pressure could result from "net debt to RCV likely to be persistently above 80% or adjusted interest coverage persistently below 1.3x";
- Moody's FFO:debt, this forms 12.5% of the 40% weighting allocated by Moody's to leverage and coverage in its ratings grid³⁰. A ratio of 6% to 10% is considered to be consistent with what is required to maintain our current rating under Moody's approach; and
- S&P FFO:debt for Class A debt. Since the downgrade to BBB+, S&P has provided guidance of about 6% for the current rating and has not determined a trigger for a downgrade to BBB for Thames or its peers.

Results

4.49 Our key ratios are set out in the table below, alongside our projections through to 2024/25:

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Covenant senior net debt to RCV	80.0%	80.8%	80.7%	79.6%	79.3%	77.7%
Covenant senior PMICR (spot)	1.50x	1.36x	1.41x	1.52x	1.51x	1.52x
Moody's adjusted PMICR	1.31x	1.24x	1.37x	1.46x	1.46x	1.43x
Moody's FFO:debt	6.0%	6.0%	6.5%	6.8%	7.1%	7.3%
S&P FFO:debt. Class A	5.1%	4.8%	5.3%	5.7%	5.9%	6.1%

Table 6: Credit ratios

Source: Thames Water financial model and PR19 April 2019 Data Table App10 (block B – lines 35-39)

4.50 For reference, we also include covenant senior gearing and PMICR levels. These ratios are substantially above levels which would trigger a distribution lock-up (being 1.1x PMICR and

³⁰ Moody's Investors Service. TSD 402 Rating Methodology: Regulated Water Utilities, 22 December 2015



85% senior gearing) and event of default (being 95% senior gearing) as set out in our debt securitisation covenants.

- 4.51 The ratio calculations presented here are consistent with how our covenants are drafted and the rating agencies' assessment, both of which are undertaken at the TWUL company level, including the benefit of non-appointed business.
- 4.52 Senior net debt to RCV averages 79.6% across AMP7 providing headroom for risk against the maximum permitted gearing level of 85%.
- 4.53 Senior PMICR increases to 1.52x over the period to 2024/25 where planned operating cost efficiencies offset the lower WACC assumption compared to AMP6 and the continued impact of being funded a real WACC (on an inflating RCV) but incurring debt on principally nominal terms the impact of which is exacerbated by the scale of our investment programme. Moody's adjusted PMICR shows a similar pattern to the covenant PMICR ratio in AMP7, reaching 1.43x by 2024/25.
- 4.54 Moody's FFO:debt is a supporting ratio, averaging 6.7% over AMP7, in line with the 6% guidance level on which we base our target ratio in the table above.
- 4.55 The ratios presented by our business plan show some headroom against covenant trigger levels, with 5% to 8% headroom on gearing and around 0.4x headroom on PMICR over the period. Our business plan ratios show Moody's PMICR averaging around 1.4x over AMP7 and gearing around or below 80% throughout the period, ending the AMP in the mid to high-70s, with supporting FFO to debt (as defined by Moody's) also in line with guidance level. We therefore conclude that the key ratios presented are consistent with maintaining our Moody's corporate family rating of Baa1, which is investment grade, two notches above minimum level required by our licence.
- 4.56 The FFO/debt ratio averages 5.6% over the period, with a strong upward trend, ending AMP7 above 6%. Our expert financial advisors Evercore have indicated³¹ that they consider our overall business plan proposal to be consistent with our current BBB+ rating, taking into account the points raised by Ofwat in its IAP.
- 4.57 Following the challenge made by Ofwat in its IAP assessment of actual financeability, as highlighted in paragraph 4.33 above, we draw Ofwat's attention to Evercore's comments regarding the S&P FFO/debt ratio within its report³², which support its conclusion that our ratios are commensurate with our current BBB+ rating for Class A debt. We also note that our consolidated EBITDA/interest ratio is above the 1.5x threshold specified by S&P (averaging over 2x in AMP7). Further, we also expect S&P to take into account gearing headroom of 5% to 8% when making their assessment.

³² Ibid.

³¹ TW-RR-A7 Evercore paper



- 4.58 Our overall conclusion is that our plan is financeable on the actual balance sheet at BBB+/Baa1.
- 4.59 The outlook for AMP8 and beyond remains uncertain in a number of respects, for example the scale of the quality programme that will eventually be required, and allowed returns. This makes preparation of detailed longer-term projections with an adequate level of certainty somewhat challenging. Notwithstanding this caveat, our long-term viability assessment in Section 7 below considers our financial resilience and ability to maintain an investment grade credit rating over a ten year period³³.
- 4.60 In support of our financeability analysis of the plan, we undertake stress tests to assess the resilience of that plan to severe but plausible risks. For the actual capital structure, this takes the form of our long term viability testing which comprises of a comprehensive assessment of a range of risk scenarios, consistent with (but going further than) our RORE downside scenario and including consideration of Ofwat's mandated combined scenario issued as part of its final position statement³⁴ on 'back in balance', in addition to further extreme events.
- 4.61 Our approach and assessment to these downside risk scenarios is set out as part of our assessment of financial resilience in Section 7 below.

Assurance

- 4.62 As noted above, we engaged expert financial advisors, Evercore, to provide advice and opinion to the Board of Thames Water Utilities Limited in relation to financeability of the company on an actual and notional basis. With regard to the actual company, Evercore has independently concluded that the company's business plan is financeable, with an estimated credit rating of BBB+/Baa1 or above³⁵. Evercore note that:
 - "our financeability assessment is based on TWUL retaining an appropriate credit rating to ensure good access to the debt capital markets;
 - based on current guidance, the forecast credit ratios support an A3 rating with Moody's and a BBB+ rating with S&P for Class A bonds; and
 - this in our view will enable TWUL to raise debt as required by the plan during AMP7."

³⁴ Putting the sector in balance: position statement on PR19 business plans, Ofwat (July 2018)

³⁵ TW-RR-A7 Evercore paper

³³ Our assessment period of 10 years remains unchanged. As our audited financial accounts for the year ending 31 March 2018 are only available in July when we publish our 2018/19 annual report, we have assumed the forward looking assessment period to be from 1 April 2019 to 31 March 2028. In doing so, we ensure consistency of methodology with other Long Term Viability Statements contained in past and upcoming annual reports.



- 4.63 The financial ratios upon which our assessment has been based have been taken from our financial model. For our September 2018 Submission, Grant Thornton provided assurance over the ratio calculations contained within our financial model, upon which our actual financeability assessment relies. We have made no changes to these calculations within our April Submission.
- 4.64 We have also reconciled the outputs of our financial model to the Ofwat financial model for the revenue requirement, RCV and cash flow statement (on an actual balance sheet basis)³⁶. This provides additional assurance over the actual ratios reported within our financial model. The Ofwat financial model outputs therefore underpin the cash flows and other key ratio inputs necessary for the reporting of both actual ratios (through our model) and notional ratios (taken directly from the Ofwat model). The Ofwat financial model output has been driven by inputs from the PR19 April 2019 data tables. Assurance over data table completion has been provided by KPMG.
- 4.65 As noted in our assessment of notional financeability below, we concluded that no PAYG or run-off lever adjustments were necessary to support notional financeability. Actual financeability is a matter for the company alone and cannot, and does not, lead to any changes in customer revenues (other than that reflected in Ofwat's treatment of tax funding for which the actual capital structure is used as the basis for the calculation). Only limited tax funding is payable by customers due to the combined effects of high capital allowances driven by our high level of investment and interest costs being based on our actual capital structure.
- 4.66 Alongside consideration of our actual ratios, we consider financeability of our plan when assessed on a notional balance sheet basis. This is explored in the following section.

³⁶ Minor differences between the two models impact gearing by less than 0.05% at 31 March 2025



Section 5

Notional financeability assessment

A Summary

Summary of our September 2018 business plan

- 5.1 We selected a target rating of BBB+ by S&P and Baa1 by Moody's for our notional balance sheet financeability assessment to be commensurate with the assumptions underpinning the cost of debt in the WACC and to ensure that there is reasonable headroom of two notches above minimum investment grade.
- 5.2 Our overall conclusion was that our plan was financeable on the notional balance sheet at BBB/Baa2 and that, in order to keep customer bills as low as possible, we chose not to make further adjustments to the run off rates or PAYG parameters to improve notional financeability to our target level of BBB+/Baa1.
- 5.3 We noted that there were other mechanisms available which would allow the notional structure to achieve a rating of BBB+/Baa1. Our expert financial advisors, Evercore, independently concluded³⁷ that the company would be able to finance its business plan at a rating of BBB/Baa2, before any additional steps taken to uplift this to BBB+/Baa1.

Thames' reaction to Ofwat's IAP

5.4 Ofwat's IAP confirmed that "the business plan provides sufficient evidence, in the round, to support the target credit rating of Baa1 (Moody's) for the notional company and that the plan is consistent with maintaining the target credit rating for the notional structure. The company has set out that the key financial ratios are not consistent with the target credit rating. However, it provides convincing evidence that other mitigating actions could achieve the target thresholds with sensitivities provided for the assumptions for dividend policy and index-linked debt – there is convincing evidence that this is beneficial to customers compared with the use of financial levers".³⁸

³⁷ Evercore, TSD355-PR19-Financial Covenant 3 and Financeability Assurance (September 2018 plan)

³⁸ Thames Water: Test question assessment, Ofwat (January 2019) – test question RR3


- 5.5 There were no actions or comments relating to the notional financeability assessment, its main concern related to the actual financeability assessment which we address in the section above.
- 5.6 We have therefore maintained our approach from September for the financeability assessment of our April 2019 plan, which is set out in the section below.

Our April 2019 plan

- 5.7 This section sets out our assessment of the financeability of our plan on the basis of Ofwat's notional balance sheet assumptions. It is structured as follows:
 - Subsection A sets out a summary of the assessment;
 - Subsection B signposts our thoughts on the principles and approach which a robust financeability assessment should follow back to our September Business Plan document;
 - Subsection C sets out the key assumptions we have made when testing for notional financeability, including target credit rating and associated notional financial indicators against which to assess our business plan;
 - Subsection D provides the results of the financeability assessment of our business plan against the notional company targets established in Subsection C, we also consider the consequences and the form and quantum of necessary action to resolve any constraints arising;
 - Subsections E to K consider the returns for each price control;
 - Subsection L considers the returns for the appointed business as a whole; and
 - Subsection M explores alternative scenario analysis, considering the overall impact of a combined risk scenario on the notional financeability of the company.
- 5.8 We have undertaken our financeability assessment assuming a notional capital structure with 60% gearing, a vanilla WACC of 2.3% (for the wholesale business, stated in RPI-stripped terms) and an assumption that 33% of all debt will be index-linked. We have targeted a BBB+/Baa1 notional rating and adopted ratio thresholds consistent with that rating by reference to rating agency and other third party data.
- 5.9 Our assessment assumes that our plan is accepted in the round, and that we deliver against the totex allowances and performance commitments, which we have set out in the plan, thereby achieving a 'neutral' outcome on AMP7 incentive mechanisms.
- 5.10 Using our totex plan as the basis for the allowance, we consider that the notional company would be able to meet ratios consistent with BBB/Baa2. The plan is therefore financeable on a notional basis with one notch of headroom above minimum investment grade but at a level one notch below the credit rating which would be consistent with the components of the allowed cost of capital.



- 5.11 One consequence of meeting a rating of BBB/Baa2 would be to incur an estimated premium of 25-40bp (estimate by our expert financial advisors Evercore) on cost of debt that will erode notional equity returns (all else equal).
- 5.12 We have considered what mitigation options are available to enable the notional company to meet ratios consistent with the targeted BBB+. One option would be to use the totex levers, however we reject that on the grounds of affordability, use of the levers would increase customer bills which we consider unnecessary given that our plan is financeable at BBB+/Baa1 on an actual balance sheet basis.
- 5.13 One critical differentiator between the two capital structures is the one notch uplift allowed for the beneficial effect of securitisation which is not available to the notional company. This benefit is applied to customers in the form of lower bills than they otherwise would be if we resolved weaknesses in the notional capital structure through use of totex levers.
- 5.14 There are other notional criteria which could be applied that may mitigate the issue we consider that we would be able to resolve the issues arising within the notional balance sheet assessment by adopting the following measures (in order):
 - Assumption of additional index-linked debt, noting that Ofwat's notional assumption of 33% is considerably below the circa 49% average for the sector³⁹. If notional indexlinked debt is increased to 50% this increases the notional adjusted cash interest cover ratios on average across AMP7 to above 1.7x and FFO/debt would average over 9%; or
 - Strengthening the balance sheet by increasing retained earnings to bring PMICR above 1.5x and FFO/debt over 9%. This could be achieved by reducing opening gearing by 5.0% (£730m) or by reducing dividend yield to 1.5% per annum. Both approaches defer equity's return into the longer term via the RCV.
- 5.15 Our overall conclusion is that our plan is financeable on the notional balance sheet at BBB/Baa2 and requires no use of PAYG or run-off levers to support notional financeability.

B Approach to financeability for the appointed business – key principles

5.16 We set out our overall thoughts on Ofwat's approach to financeability and the key principles within our September 2018 Plan within CSD009–PR19–Finance and Financeability. We do not repeat them here but refer the reader to that document.

³⁹ Calculated using latest complete year of data from industry datashare, being 2017/18. From Table 1E of industry datashare (sum of excel row 5 [ILD] divided by sum of excel row 11 [net debt] = 48.5%)



C Appointed business – notional company assumptions

- 5.17 Only a limited definition of the notional company and necessary assumptions required to complete financeability testing on this basis is provided in the PR19 final methodology. This section therefore sets out the assumptions we have made, citing the methodology or other reference sources as applicable.
- 5.18 We have chosen a target rating of BBB+ by S&P and Baa1 by Moody's for our notional balance sheet financeability assessment for the following reasons:
 - To be commensurate with our understanding of how the allowed cost of debt has been estimated by Ofwat within the WACC, including its choice of reference index for the cost of new debt – being the iBoxx indices for non-financial companies. Ofwat states that it will use a 50:50 mix of A and BBB rated indices, which "reflects an appropriate range of credit profile for the notional company."⁴⁰
 - To ensure that, in addition to the protection afforded within the target ratios at that BBB+/Baa1 level, there is reasonable headroom of two notches above the minimum investment grade rating, which is a condition of our licence.

Key notional financial indicators

- 5.19 In order to assess whether our rating would be consistent with BBB+/Baa1 we have considered what ratio levels should be targeted, primarily by reference to guidance issued by the rating agencies⁴¹ but we have also cross-checked this against ratios considered by Ofwat at PR14. We have proposed ratio targets, which we believe to be in line with those required by rating agencies for a BBB+/Baa1 credit rating for a generic company with 60% gearing, ignoring the company's own specific choice of capital structure.
- 5.20 Our target levels for the key ratios are as follows:
 - Cash interest cover: 2.5x based on the lower end of Baa1 guidance from Moody's, although it is worth noting that Moody's focus more on their adjusted interest cover ratio below;
 - Adjusted cash interest cover: 1.5x, being primarily a Moody's measure (based on postmaintenance interest cover or PMICR) reflecting the uncertainty associated with

⁴⁰ Delivering Water 2020: Our methodology for the 2019 price review. Appendix 12: Aligning risk and return, Ofwat (13 December 2017)

⁴¹ Moody's Investors Service, TSD402 Rating Methodology: Regulated Water Utilities, 22 December 2015 and Standard & Poor's Ratings Services, TSD399 Corporate Methodology, 19 November 2013



Ofwat's April 2018 consultation on putting the sector back in balance. Moody's recent analysis⁴² shows that this increases target PMICR from 1.4x to 1.5x;

- Funds from operations to debt (FFO to debt): 8% to 10% range this is primarily an S&P measure where 6% is expected by S&P to be consistent with a BBB rating underpin, with a higher threshold expected for BBB+ basis, say in 8% to 10% range. The latter being Moody's lower end requirement for Baa1 (equivalent to BBB+);
- Retained cash flow to debt (RCF to debt): 6% to 10% per Moody's requirement for Baa1, this ratio has just 5% weighting by Moody's in its ratings grid;
- Gearing (net debt to RCV): opening gearing of 60% for AMP7, consistent with that assumed in Ofwat's initial view of the WACC⁴³, which can vary dynamically thereafter in line with the dividend assumption set out below. Upper end of 65% consistent with Ofwat's deadband for gearing in its illustrative example of how financing gains may be shared for higher geared companies.⁴⁴
- 5.21 Our expert financial advisors, Evercore, support these ratio targets as being consistent with BBB+/Baa1 noting⁴⁵ that FFO:debt ratios should be 9%-10% and that adjusted interest cover ratios should be above 1.5x.

Other assumptions used when assessing notional financeability

- 5.22 Our financeability testing on a notional balance sheet basis has been undertaken using the following assumptions:
 - Allowed cost of capital of 2.3% (for the wholesale business, vanilla, stated in RPIstripped terms) set in line with the 'early view' as set out in Ofwat's final methodology;⁴⁶
 - A notional dividend yield of 2.99% growing at 1.28% per annum in real terms, this
 equates to distributing 70% of the wholesale cost of equity (of 4.27% real, average of
 RPI-stripped basis and real CPIH-stripped basis) included in the WACC.⁴⁷ This

⁴² Moody's Investors Service. TSD 127 Sector in-depth, Regulated Water Utilities – UK Regulator's proposals undermine the stability and predictability of the regime, 22 May 2018

⁴³ Delivering Water 2020: Our final methodology for the 2019 price review, Ofwat (December 2017) – pages 166 and 172 (inter alia)

⁴⁴ Putting the sector in balance: position statement on PR19 business plans, Ofwat (July 2018)

⁴⁵ TW-RR-A7 Evercore paper

⁴⁶ Delivering Water 2020: Our final methodology for the 2019 price review. Ofwat (December 2017) -Chapter 11.2

⁴⁷ We have populated the notional financial model with this dividend yield approach. We understand that using the wholesale cost of equity in this way to generate notional dividends is in line with the advisory IAP action TMS.CA.B1 "Provide an updated financial model that uses the wholesale cost of equity to calculate dividend yield". This is also consistent with Section 4.4.2 of the Ofwat IAP Technical Appendix 3, Aligning Risk and Return, which indicates that the dividend yield plus growth should not be higher than 4.52%.



amounts to some £961m⁴⁸ in outturn prices, note that this is not the same as the lower dividend assumption we include in our plan for the actual company of £519m – which has been set to reduce gearing during AMP7. This approach is consistent with that adopted by Ofwat in its notional financing tests at PR14⁴⁹ as updated within its IAP guidance and feedback⁵⁰;

- 33% of the debt of the notional company is index-linked, in line with Ofwat's final methodology⁵¹. However we note that this is below the average level of index-linked debt seen in the sector, which is just under 50%⁵²;
- The notional company adopts a 'traditional' debt structure, or in other words, it is not securitised;
- Business plan costs in line with Ofwat's assessment of efficient costs for the notional company, delivered in line with performance commitments (a 'neutral position' with no ODI rewards or penalties);
- Revenues exclude the impact of rewards and penalties relating to true-up mechanisms for previous price control periods. This follows the approach set out by Ofwat within its final PR19 methodology⁵³; and
- All costs and revenues relating to activity which sits outside the appointed business have been excluded from our assessment.
- 5.23 As noted in discussion of financeability on our actual balance sheet the impact of the TTT IP billing pass through is neutral in cash terms, hence we anticipate that this will have no overall impact on notional ratios as these are based upon cash flows rather than accounting profits.

⁴⁸ Per TW-DT01-PR19 Data Tables Table, App11a

⁴⁹ IN 14/11 2014 price review – Ofwat's approach to assessing financeability, Ofwat (May 2014). Here a 4% yield was assumed, with growth of 1.65%, equivalent to distributing 70% of the allowed PR14 cost of equity of 5.65%, real

⁵⁰ Technical appendix 3: Aligning risk and return, Ofwat (January 2019) – page 27 and 'Thames Water: Securing confidence and assurance detailed actions', Ofwat (January 2019) – Section CA9.6, action TMS.CA.B1

⁵¹ Delivering Water 2020: Our methodology for the 2019 price review. Appendix 12: Aligning risk and return, Ofwat (December 2017) – page 84

⁵² Calculated using latest complete year of data from industry datashare, being 2017/18. From Table 1E of industry datashare (sum of excel row 5 [ILD] divided by sum of excel row 11 [net debt] = 48.5%)

⁵³ Delivering Water 2020: Our final methodology for the 2019 price review, Ofwat (December 2017) – page 191



D Notional financeability assessment

5.24 The following table summarises our financial ratios based upon our interpretation of Ofwat's financeability test based on the assumptions we set out in the preceding section. The key ratios of cash interest cover, adjusted interest cover, FFO/debt and gearing are within or ahead of target.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
Cash interest cover	3.67x	3.64x	3.57x	3.54x	3.55x	3.59x
Adjusted cash interest cover	1.52x	1.51x	1.48x	1.40x	1.40x	1.46x
FFO/debt	8.8%	8.6%	8.5%	8.6%	8.7%	8.6%
RCF/debt	6.8%	6.8%	6.7%	6.9%	7.0%	6.8%
Gearing (net debt/RCV)	60.7%	61.5%	62.4%	62.8%	62.6%	62.0%

 Table 7: Financeability assessment using notional capital structure

Source: Ofwat financial model and PR19 April 2019 Data Table App10

- 5.25 Compared to our September business plan, our April submission presents improved ratios driven by a combination of a lower totex plan (reflecting the additional efficiencies that we have built in) and our alternative treatment of the impact of CPIH transition, which we have reversed in a graduated manner, to ensure greater consistency of bills across AMP7 and AMP8 in line with our customers' expressed preference for consistency and smooth bill changes⁵⁴.
- 5.26 We consider that the notional company would just fall short of our target ratios required to achieve a BBB+/Baa1 rating (largely driven by adjusted interest cover being below 1.5x, and FFO/debt below 9%). Instead, we think that the notional company would meet ratios consistent with BBB/Baa2. The plan is therefore financeable on a notional basis with one notch of headroom above minimum investment grade but at a level one notch below the credit rating which would be consistent with the components of the allowed cost of capital.
- 5.27 One consequence of meeting a rating of BBB/Baa2 would be to incur an estimated premium of 25-40bp on cost of debt (estimate by our expert financial advisors Evercore)

⁵⁴ TW-CSE-A1 – What Customers Want (v13), Section 31 – 'affordable bills: keep bills stable'. We've reversed all of the CPIH transition in AMP7 and graduated it in AMP8 to bring about this customer-led profile



that will erode notional equity returns (all else equal). We have not factored this additional cost into our plan as we have applied the advantages of our actual financial structure – which is financeable at BBB+/Baa1 – to the benefit of customers, as drawn out below.

- 5.28 We have considered what mitigation options are available to enable the notional company to meet ratios consistent with the targeted BBB+. One option would be to use the totex levers, however we reject that on the grounds of affordability, use of the levers would increase customer bills which we consider unnecessary given that our plan is financeable at BBB+/Baa1 on an actual balance sheet basis. One critical differentiator between the two capital structures is the one notch uplift allowed for the beneficial effect of securitisation, which is not available to the notional company.
- 5.29 There are other notional criteria which could be applied which may mitigate the issue we consider that we would be able to resolve the issues arising within the notional balance sheet assessment to achieve BBB+/Baa1 by adopting the following measures (in order):
 - Assumption of additional index-linked debt; noting that Ofwat's notional assumption of 33% is considerably below the circa 49% average for the sector⁵⁵. If notional indexlinked debt is increased to 50%, this increases the notional adjusted cash interest cover ratios on average across AMP7 to above 1.7x and FFO/debt would average over 9%; or
 - Strengthening the balance sheet by increasing retained earnings to bring PMICR above 1.5x and FFO/debt above 9%. This could be achieved by reducing opening gearing by 5% (£730m) or by reducing dividend yield to 1.5% per annum. Both approaches defer equity's return into the longer term via the RCV.
- 5.30 Our overall conclusion is that our plan is financeable on the notional balance sheet at BBB/Baa2 and requires no use of PAYG or run-off levers to support notional financeability. Additional mitigations are available to improve this rating by one notch to BBB+/Baa1 by increasing notional index-linked debt or reducing notional dividends accordingly.
- 5.31 Our expert financial advisor Evercore has independently concluded that the notional company will be able to finance its business plan at a rating of BBB/Baa2 by S&P and Moody's respectively.⁵⁶
- 5.32 In making its assessment, Evercore note the following:
 - The cost of debt will be higher by an estimated 25-40bps than a BBB+/Baa1 rated company; and

⁵⁵ Calculated using latest complete year of data from industry datashare, being 2017/18. From Table 1E of industry datashare (sum of excel row 5 [ILD] divided by sum of excel row 11 [net debt] = 48.5%)

⁵⁶ TW-RR-A7 Evercore paper



- Ofwat's allowed cost of new debt issuance in AMP7 is to be indexed to an iBoxx index that comprises both A and BBB rated bonds (less 15bps [but before issuance costs]) i.e. an average rating of BBB+. Therefore a BBB rated notional company, being a lower rated company than the index average, will potentially always underperform on the cost of new debt.
- 5.33 The outlook for AMP8 and beyond remain uncertain in a number of respects, for example, the scale of the quality programme that will eventually be required and the level of allowed returns. This makes preparation of detailed longer-term projections with an adequate level of certainty somewhat challenging. However, if we assume the same WACC and cost of debt in AMP8 as for AMP7, and that gearing is reset to 60% at the start of AMP8 then we would expect key ratios in AMP8 to broadly equate to the average shown for AMP7.
- 5.34 We also consider ratios specific to equity investors focusing on dividend cover, regulatory earnings and RCV/EBITDA.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25
Dividend cover	0.39x	0.49x	0.63x	0.79x	0.88x
Regulatory equity / regulatory earnings	22.1	21.9	21.8	21.7	21.5
RCV / EBITDA	13.2	13.1	13.0	12.9	12.8

Table 8: Equity ratios

Source: Ofwat financial model

- 5.35 Each ratio excludes the beneficial impacts to earnings or EBITDA of the TTT IP revenue pass through, which is positive in EBITDA terms but neutral in cash terms and should therefore be excluded for the purpose of assessing such ratios.
- 5.36 Dividend cover increases from 0.39x to 0.88x, below the targeted value of 1x which demonstrates the scale of the real/nominal mismatch where, due to the nature of the regulatory regime, the company is incurring significantly more interest costs (paid in nominal terms) than it earns in revenue from customers who pay in real terms (on an inflating RCV) during AMP7.
- 5.37 The significant reduction in allowed WACC (in particular the cost of equity component) by Ofwat in its early view has severely limited the ability of companies to offset the real/nominal mismatch in cash and profit terms from revenues provided by customers in period. This effect should unwind over time, although this may take several AMP periods therefore it is essential that companies are able to earn and distribute those additional profits at that time.



- 5.38 The regulatory equity/regulatory earnings and RCV/EBITDA metrics remain broadly stable through AMP7.
- 5.39 Results suggest that attracting new equity into the business during AMP7 may present significant challenge when taking the results of key debt ratios (where limited headroom remains) alongside relatively unattractive equity metrics, factors which must be clearly taken into account by Ofwat when assessing financeability of the company at the draft and final determinations.
- 5.40 We consider the robustness of the notional company to a range of severe but plausible risk scenarios, on a P10 and P90 basis, in Section M below.

E Returns for each price control

5.41 The following sections set out our assessment of the financeability of the six individual price controls by reference to the measures of return for each as set out in the PR19 final methodology guidance. For the wholesale controls we have therefore focused on return on capital employed (ROCE)⁵⁷ and on the return on regulatory equity (RORE). For retail we have reviewed the overall level of net margin.

F Wholesale water network plus

5.42 To assess overall returns for the wholesale water network plus control we have focused on the two key measures of return on capital employed (ROCE) and return on regulatory equity (RORE). These have been calculated in line with the definition provided in Ofwat's PR19 methodology document.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 Average
ROCE ⁵⁸	2.82%	2.86%	2.89%	2.92%	2.95%	2.89%
RORE	4.29%	4.33%	4.36%	4.39%	4.42%	4.36%

Table 9: Measures of return for wholesale water network plus (notional basis)

Source: Ofwat financial model

 ⁵⁷ We use the ROCE (building blocks) definition included in the Ofwat financial model (Analysis_Appointee tab) on grounds that its construction is more in line with the WACC calculation – rather than the ROCE-Appointee definition which is the one pulling through into TW-DT01-PR19 Data Tables, App10
 ⁵⁸ ROCE (building blocks definition)



5.43 Overall returns are forecast to be in line with the assumptions underpinning the WACC. For ROCE the relevant comparison is a combination of 2.3% real RPI-stripped and 3.3% real CPIH-stripped, applied to the RPI and CPIH-linked RCV respectively for this price control – which averages 2.90% p.a. across the AMP. Similarly for RORE we can compare to the allowed cost of equity in the wholesale WACC (which averages 4.37% using the same weighting of RPI-stripped and CPIH-stripped components). This provides comfort over the consistency of the wholesale water network plus control with Ofwat's early view on the cost of capital.

G Wholesale water resources

5.44 To assess overall returns for the wholesale water resources price control we have focused on the two key measures of return on capital employed (ROCE) and return on regulatory equity (RORE). These have been calculated in line with the definition provided in Ofwat's PR19 methodology document.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
ROCE ⁵⁹	2.83%	2.87%	2.92%	2.96%	3.00%	2.92%
RORE	4.30%	4.35%	4.40%	4.44%	4.47%	4.39%

Table 10: Measures of return for wholesale water resources (notional basis)

Source: Ofwat financial model

5.45 Overall returns are forecast to be in line with the assumptions underpinning the WACC. For ROCE the relevant comparison is a combination of 2.3% real RPI-stripped and 3.3% real CPIH-stripped, applied to the RPI and CPIH-linked RCV respectively for this price control – which averages 2.94% p.a. across the AMP. Similarly for RORE we can compare to the allowed cost of equity in the wholesale WACC (which averages 4.41% using the same weighting of RPI-stripped and CPIH-stripped components). This provides comfort over the consistency of the wholesale water resources control with Ofwat's early view on the cost of capital.

⁵⁹ ROCE (building blocks definition)



H Wholesale wastewater network plus

5.46 To assess overall returns for the wholesale wastewater network plus price control we have focused on the two key measures of return on capital employed (ROCE) and return on regulatory equity (RORE). These have been calculated in line with the definition provided in Ofwat's PR19 methodology document.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
ROCE ⁶⁰	2.82%	2.86%	2.89%	2.93%	2.96%	2.89%
RORE	4.29%	4.33%	4.37%	4.40%	4.43%	4.36%

Table 11: Measures of return for wholesale wastewater network pl	olus (notional basis)
--	-----------------------

Source: Ofwat financial model

5.47 Overall returns are forecast to be in line with the assumptions underpinning the WACC. For ROCE the relevant comparison is a combination of 2.3% real RPI-stripped and 3.3% real CPIH-stripped, applied to the RPI and CPIH-linked RCV respectively for this price control – which averages 2.91% p.a. across the AMP. Similarly for RORE we can compare to the allowed cost of equity in the wholesale WACC (which averages 4.38% using the same weighting of RPI-stripped and CPIH-stripped components). This provides comfort over the consistency of the wholesale wastewater network plus control with Ofwat's early view on the cost of capital.

I Wholesale wastewater TTT price control

5.48 To assess overall returns for the wholesale wastewater TTT price control, we have focused on the two key measures of return on capital employed (ROCE) and return on regulatory equity (RORE). These have been calculated in line with the definition provided in Ofwat's PR19 methodology document.

⁶⁰ ROCE (building blocks definition)



Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
ROCE ⁶¹	2.80%	2.81%	2.82%	2.79%	2.73%	2.79%
RORE	4.28%	4.28%	4.29%	4.26%	4.20%	4.26%

Table 12: Measures of return for the wholesale wastewater TTT price control (notional basis)

Source: Ofwat financial model

5.49 Overall returns are forecast to be in line with the assumptions underpinning the WACC. For ROCE the relevant comparison is a combination of 2.3% real RPI-stripped and 3.3% real CPIH-stripped, applied to the RPI and CPIH-linked RCV respectively for this price control – which averages 2.78% p.a. across the AMP. Similarly, for RORE, we can compare to the allowed cost of equity in the wholesale WACC (which averages 4.25% using the same weighting of RPI-stripped and CPIH-stripped components). This provides comfort over the consistency of the wholesale TTT price control with Ofwat's early view on the cost of capital.

J Wholesale bioresources

5.50 To assess overall returns for the wholesale bioresources price control we have focused on the two key measures of return on capital employed (ROCE) and return on regulatory equity (RORE). These have been calculated in line with the definition provided in Ofwat's PR19 methodology document.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
ROCE ⁶²	2.81%	2.83%	2.86%	2.88%	2.90%	2.86%
RORE	4.28%	4.30%	4.33%	4.35%	4.37%	4.33%

Table 13: Measures of return for the wholesale bioresources (notional basis)

Source: Ofwat financial model

5.51 Overall returns are forecast to be in line with the assumptions underpinning the WACC. For ROCE the relevant comparison is a combination of 2.3% real RPI-stripped and 3.3% real CPIH-stripped, applied to the RPI and CPIH-linked RCV respectively for this price control –

⁶¹ ROCE (building blocks definition)

⁶² ROCE (building blocks definition)



which averages 2.86% p.a. across the AMP. Similarly, for RORE we can compare to the allowed cost of equity in the wholesale WACC (which averages 4.34% using the same weighting of RPI-stripped and CPIH-stripped components). This provides comfort over the consistency of the wholesale bio resources control with Ofwat's early view on the cost of capital.

K Retail household

- 5.52 To assess returns for the retail household control, we have considered the overall profitability of this segment of the business in the context of the assumption made for the net retail margin. Net retail margin has been calculated in line with the definition provided in Ofwat's PR19 methodology document.
- 5.53 For the retail household control, it is helpful to set out a summary of the net margin in the context of the overall price control:

Margin analysis	2020/21	2021/22	2022/23	2023/24	2024/25
	£m	£m	£m	£m	£m
Retail revenue, including TTT IP pass-through	1,781	1,875	1,953	2,017	2,078
Wholesale cost pass-through, including TTT IP	-1,607	-1,701	-1,780	-1,851	-1,917
Retail opex	-155	-154	-151	-143	-142
Depreciation	-21	-23	-25	-27	-25
EBIT	-3	-3	-4	-4	-5
Net margin %	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%

 Table 14: Retail margin for household price control

Source: Thames Water analysis using Ofwat financial model outputs (outturn prices). Numbers may not add due to rounding

5.54 The negative margin arises as a result of a net reduction to AMP7 retail revenues from application of the SIM and household revenue penalties relating to AMP6. These revenue adjustments exceed the allowed net retail margin for AMP7. If these adjustments are



excluded from the net calculation, the net margin for AMP7 is exactly 1% - in line with Ofwat's guidance.

5.55 Our challenge is to absorb the effects of inflation on future costs, which are controllable (and not linked to the wholesale pass-through). If the effects of RPI on these costs cannot be absorbed this will erode the net margin over time.

L Appointed business

5.56 To assess overall returns for the appointed business, we have focused on the two key measures of return on capital employed (ROCE) and return on regulatory equity (RORE). These have been calculated in line with the definition provided in Ofwat's PR19 methodology document. The table below shows the overall level of return for the appointed business.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
ROCE ⁶³	2.91%	2.94%	2.97%	3.00%	3.02%	2.97%
RORE	4.53%	4.56%	4.59%	4.61%	4.64%	4.59%

Table 15: Measures of return for the appointed business

Source: Ofwat financial model

5.57 Overall returns are forecast to be in line with the assumptions underpinning the WACC. For ROCE the relevant comparison is a combination of 2.4% real RPI-stripped and 3.4% real CPIH-stripped, applied to the RPI and CPIH-linked RCV respectively for the appointed business in total⁶⁴ – which averages 2.99% p.a. across the AMP⁶⁵. Similarly, for RORE we can compare to the allowed cost of equity in the wholesale WACC (which averages 4.60% using the same weighting of RPI-stripped and CPIH-stripped components)⁶⁶. This provides comfort over the consistency of the appointed business returns with Ofwat's early view on the cost of capital.

⁶³ ROCE (building blocks definition)

⁶⁴ Delivering Water 2020: Our final methodology for the 2019 price review, Ofwat (December 2017) – Chapter 10, table 10.2

⁶⁵ Thames Water calculation, using Thames Water RCV data from 'dashboard' tab of the Ofwat financial model

⁶⁶ Ibid.



M Scenario analysis: combined scenarios

- 5.58 The purpose of developing risk scenarios is to understand how robust our plan is to severe but plausible scenarios whereby outcomes and costs in AMP7 are significantly different from that assumed in the base case. Our base case is founded on a 'P50' plan in terms of costs to deliver our performance commitments on a 'P50' basis.
- 5.59 Scenario analysis tests how resilient our plan is, on a notional basis, to 'P10' and 'P90' outcomes. This means there would be a 20 percent chance of the key risk factor(s) falling outside of the P10 (high case) and P90 (low case) assumptions used for these scenarios.
- 5.60 We summarised in our September 2018 document, Appendix 6-Risk and Return, our approach to assessing risks and opportunities in our business. We explained how this has informed development of upside and downside scenarios, which are central to our assessment of the impact of risk and opportunity in delivery of our business plan through RORE analysis. We adopt a similar approach for our April Submission.
- 5.61 We consider the financial resilience of our business plan on the basis of our actual capital structure to these scenarios in Section 7.
- 5.62 In this section we stress test the notional capital structure to these same P10 and P90 combined risk scenarios i.e. using the upsides and downsides consistent with our RORE analysis. We have assumed an opex/capex split consistent with the components of the RORE analysis. We reflect the cash impact of each component of the combined scenarios, so for example on ODIs there is a two year lag between the risk crystallisation (when it counts for RORE purposes) and cash flow impact (when impact hits revenues, so affecting our financeability test).
- 5.63 The detailed impact of each scenario on financeability of the notional structure is set out in the tables below.

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
Cash interest cover	3.85	3.88	3.97	4.07	4.27	4.01
Adjusted cash interest cover	1.60	1.64	1.76	1.77	1.91	1.74
FFO/debt	9.00%	9.11%	9.51%	10.04%	10.80%	9.69%
RCF/debt	7.06%	7.24%	7.71%	8.24%	8.96%	7.84%
Gearing (net debt/RCV)	60.38%	60.75%	60.92%	60.40%	59.10%	60.31%

Table 16: Combined scenario – upside case (P10)

Source: Ofwat financial model



Ratio	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 average
Cash interest cover	3.26	2.98	2.66	2.59	2.55	2.81
Adjusted cash interest cover	1.18	0.97	0.77	0.72	0.73	0.87
FFO/debt	7.59%	6.64%	5.64%	5.56%	5.52%	6.19%
RCF/debt	5.68%	4.86%	4.00%	4.00%	3.99%	4.51%
Gearing (net debt/RCV)	61.33%	63.89%	66.93%	69.40%	71.00%	66.51%

Table 17: Combined scenario – downside case (P90)

Source: Ofwat financial model

Table 18: Combined scenarios – key equity ratio

Ratio	2020/21	2021/22	2022/23	2023/24	2024/25
Dividend cover – upside case	0.50	0.69	1.10	1.43	1.76
Dividend cover – downside case	-0.17	-0.49	-0.81	-0.70	-0.63

Source: Ofwat financial model

- 5.64 The combined scenario downside case (P90) shows a significant reduction in key ratios, driven by the additional cash drain on the business from crystallisation of unfunded risks (impacts of which can only be passed on to, or shared with, customers to a limited degree in period). Most ratios drop below what we would expect to be consistent with BBB/Baa2 for the whole period, with corrective action falling on equity to resolve through lower dividends or equity injection. Some costs will be recovered from customers during the following AMP, under operation of the cost performance incentives, although the company will need to finance these within period.
- 5.65 The negative dividend cover in the downside case further demonstrates the cash drain on the business, and the constrained conditions which support distribution of the estimated cash yield driven from the return on equity in the WACC (at 70%). In reality, dividend cover would improve in the low case, as dividends will need to be foregone to ensure that credit quality is maintained.
- 5.66 In contrast, under the combined scenario high case (P10), the company gains the cash flow benefits of the reduction in expenditure within period to the extent they are not subject to any within period incentive and true-up mechanisms. Interest cover rises above the base case, debt payback ratios are less impacted. Again, savings will be shared post-period with customers, which will reduce ratios in AMP8, but impact would be dampened by exclusion



of the associated rewards under the terms of the PR19 financeability assessment methodology.



Section 6

RORE

A Introduction

6.1 This section sets out the risk and reward balance of our overall plan using RORE analysis.

Summary of our September 2018 business plan

6.2 Our September plan demonstrated an overall RORE range of +1.40% to -3.75% based on combined upside (P10) and downside (P90) scenarios. We also presented for information and context a comparison of our low case P90 RORE output versus the combined scenario set out by Ofwat within 'Back in Balance'. Our downside scenario generated an average RORE of -3.75% for the AMP which was a larger impact than the 'back in balance' combined scenario which generates an average -3.54% RORE.

Thames' reaction to Ofwat's IAP

- 6.3 In April 2019, Ofwat graded our response to question RR2 as 'B' (green), which was the maximum grade awarded to any water company via the IAP⁶⁷. The regulator stated: "Thames Water's business plan demonstrates high quality evidence for most areas of its RoRE assessment. The company has outlined each of the prescribed scenarios and clearly set out its assumptions and methodologies. The plan sets out a detailed risk analysis that indicates both macroeconomic and Thames specific risks and sets out a range of plausible mitigating actions for each factor. While the conclusion in its RoRE presentation is that totex outcomes should be skewed to the downside is of concern, this has not affected the overall score. The company does not propose any bespoke uncertainty mechanisms."
- 6.4 Given the increasingly challenging targets placed on water companies, we believe that the probability of underperformance is higher than that of outperformance hence totex outcomes would be skewed more to the downside. Furthermore, there are circumstances which can generate overspends for which there is either no corresponding opposite impact or much lower underspends in relative terms, e.g. it is difficult to envisage upside events which would result in totex underspends which would be greater than or equal to the adverse totex impact of a cryptosporidium event.

⁶⁷ Thames Water: Test question assessment, Ofwat (January 2019) – test question RR1



6.5 However, to address Ofwat's comment around totex asymmetry, we have explored various ways of increasing the totex upside outcome – this is explained further below.

Our April 2019 plan

- 6.6 Return on regulatory equity in the base case averages 4.59% for the appointed business over the plan period at 60% notional gearing, in line with the cost of equity assumption in the WACC. Our plan now demonstrates an overall RORE range of +1.73% to -3.83% based on combined upside (P10) and downside (P90) scenarios.
- 6.7 The methodology used to develop the combined upside (P10) and downside (P90) scenarios to calculate the RORE range remains largely similar to our previous submission. For the combined downside, we have again used the scenario involving adverse weather together with a poor economic environment. Given the recent climate events ('Beast from the East' and prolonged summer heatwave) the increasingly likelihood of more adverse weather in the future and our general operational underperformance over the last few years of AMP6, we have decided to increase the penalties of certain individual ODIs slightly beyond that of a P90 outcome. This applied to ODIs which are heavily influenced by weather, namely (1) leakage, (2) bursts, and (3) interruptions to supply.
- 6.8 For the combined upside, we explored switching from our original scenario 2 to scenario 4, which has additional upside based on an assumption of additional innovation/efficiency gains. This would have moved the totex upside from 0.63% to 0.9%.
- 6.9 However, given the additional £400m base totex stretch in our resubmitted plan, we have assumed that this innovation gain will be absorbed in delivering the base plan. We have therefore retained scenario 2 as in our initial submission.
- 6.10 For ODI upsides, we have adopted a more symmetrical scenario on the upside and this, coupled with changes in the individual ODI ranges (App1), has increased the ODI upside from 0.47% in September to 0.83%.
- 6.11 The ODI downside remains at 1.53%, hence increasing the range from 2.00% to 2.36%. We believe that it is still appropriate to have a downside asymmetry, as the downside-only 'events' noted above which drive totex overspend also drive ODI underperformance.
- 6.12 Our plan now includes two uncertainty mechanisms as set out in Chapter 2 of our TW-RS1-Building a Better Future: Response to Ofwat's Initial Assessment of Thames Water's PR19 Business Plan, a true-down uncertainty mechanism for specific projects and a true-up mechanism for business rates and SEMD. The true-down mechanism would return monies to customers if the projects do not pass the gateway process. This uncertainty mechanism operates on an NPV neutral basis for customers and is, therefore, similarly neutral from a RORE perspective.



B RORE range

6.13 The table below breaks out the RORE impact of our upside and downside scenarios (per Data Table App26) for the appointed business in aggregate.

% impact on regulated equity	P90 (downside)	P10 (upside)
Revenue	0.00%	0.00%
Totex	-1.48%	0.62%
Residential retail costs	-0.23%	0.07%
ODIs	-1.53%	0.83%
D-MeX	-0.04%	0.02%
C-MeX	-0.34%	-0.02%
Financing	-0.21%	0.21%
Total	-3.83%	1.73%

Table 19: Risk scenario impacts on RORE

Source: Ofwat financial model. Numbers may not add due to rounding

6.14 The following chart shows how our RORE ranges break out across the price controls.

Figure 7: Overall RORE range for combined upside and downside scenarios



Source: Ofwat financial model



- 6.15 For the Appointee, the RORE downside (P90) is very similar to our September business plan. The C-MeX downside has increased slightly mainly due to the uncertainties around the C-MeX methodology, The RORE upside (P10) remains broadly unchanged, with the exception of ODIs as noted above. The ODI penalties have been allocated to Price Controls in line with the methodology used to populate PR19 April 2019 Data Table App1.
- 6.16 The Water network plus price control still has the highest ODI range, but there is greater symmetry than in September. This change is as a result of the revised ODI ranges and how these impact the selected scenario. The totex overspend risk is largely unchanged as the same factors apply as in September
- 6.17 Water resources still carries the greatest proportionate risk of totex overspend, reflecting that AMP7 totex is higher relative to RCV for this price control.
- 6.18 The Waste network plus price control now has a larger downside ODI range than September, as changes in individual ODI ranges, have increased both the P10 and P90 range since September.
- 6.19 The TTT control has three financial ODIs, directly linked to TWUL's activity on the project in AMP7. These ODIs have been significantly amended since the September submission and are both reward and penalty. At P10 we now have modelled £30m of underperformance, based on an assumption of late delivery. At P90 we have modelled £30m of outperformance, based on achieving all goals. Totex variation on this control remains low in comparison with TTT RCV (and other controls) as gross AMP7 totex (before deduction of land sales) is only around 10% of average RCV.
- 6.20 Retail household is highly exposed to C-MeX underperformance in the P90 scenario and the scale of this has increased to £105m in the latest modelling, as we can now assess the impact of the revised methodology issued in March 2019. The newly-published methodology has led us to revise the P10 scenario, with a severe downside in year 1 and only marginal upside by year 4, with a step change in year 5. As a result we have estimated negative P90 RORE of -0.02%. This impact is captured at the appointee level.
- 6.21 In summary, the individual elements of the business plan operate together such that taken as a whole the company is financeable on the basis of its actual capital structure and (with mitigating actions) on the notional capital structure.



Section 7

Financial resilience

A Introduction

- 7.1 As part of our September 2018 business plan preparation, we considered the financial resilience of our plan over a ten year period⁶⁸ to cover a range of plausible but severe downside scenarios appropriate to the business. In doing so, we adopted an approach consistent with the long-term viability statement (LTVS) contained in our latest annual report (2017/18). We concluded that we were financially resilient over the ten-year assessment period if those downsides were to crystallise.
- 7.2 As part of Ofwat's IAP, TMS.LR.A4 requires us to "explain how we have taken account of the risks to our financial resilience associated with:
 - (a) Our plan to maintain a Baa1 credit rating;
 - (b) The introduction of a GSM;
 - (c) Our current and planned gearing levels;
 - (d) Requirements to refinance subordinated debt; and

(e) Capital for the business raised as debt elsewhere in the corporate group, outlining associated risk management/mitigation approaches identified by the company, to provide assurance on long term financial resilience."

- 7.3 The regulator via TMS.LR.A5 has also indicated that we should "explain the steps [we have] taken/will take in response to [our] consultant's view that it should undertake additional scenario analysis and planning to deal with financial and operational shocks."
- 7.4 In response to Ofwat's comments around our long term financial viability, we have analysed the following:

⁶⁸ Our assessment period of 10 years remains unchanged. As our audited financial accounts for the year ending 31 March 2018 are only available in July when we publish our 2018/19 annual report, we have assumed the forward looking assessment period to be from 1 April 2019 to 31 March 2028. In doing so, we ensure consistency of methodology with other Long Term Viability Statements contained in past and upcoming annual reports.



- Potential one notch downgrade to our credit rating and the effect this would have on our ability to continue to raise financing and maintain compliance with our financial covenants;
- Gearing sharing mechanism ("GSM") the effects of which are experienced in AMP8. Whilst we disagree with Ofwat's GSM in principle, we recognise that the regulator may want to apply its proposal. To be prudent, we have modelled the impact of applying Ofwat's default GSM in full in all downside cases; and
- Provision of evidence to support our expectation of an investment grade credit rating under the four downside scenarios.
- 7.5 The sections below address the specific action points (TMS.LR.A4 and TMS.LR.A5) and observations in Ofwat's IAP, as well as providing certain additional information relevant to assessment of our financial resilience. Please note that material relevant to TMS.LR.A4 part (a) can also be found in Section 4.

B Demonstrating efficient access to capital markets

Overview of our funding

- 7.6 Since 2007, Thames Water has operated under a Whole Business Securitisation ("WBS"), structured to provide a framework to efficiently access a broad range of debt markets, ensuring a stable and diversified base of long-term funding and liquidity on attractive terms.
- 7.7 The WBS has provided a robust structure to finance the business. Since the completion of the WBS, TWUL and its financing subsidiaries ("Opco") have issued £9.5bn of debt and diversified our sources of financing, accessing new investors via the US private placement and CAD markets.
- 7.8 Over AMP7, we expect to continue to issue senior (Class A), subordinated (Class B) and Holdco debt (i.e. debt issued by entities outside the regulatory ring-fence) in the public and private Sterling markets. We also expect to issue Class A debt in a variety of non-Sterling denominated private and public markets, subject to achieving best pricing at any point in time.
- 7.9 The risk of market disruption or unfavourable market conditions impacting our financing plans is mitigated by Opco's even maturity profile (with the largest maturity in AMP7 being only £300m), a smooth cash flow profile, and the fact that a significant proportion of our financing needs (64% in AMP7) are driven by refinancing.
- 7.10 Our ability to access markets is further supported by the demonstrated resilience of the investment grade and sub-investment grade markets even during times of extreme stress, the substantial liquidity facilities, which we maintain with creditworthy counterparties, the support of our relationship bank group, and the support of our shareholders.



Market capacity and potential impact of a credit rating downgrade

- 7.11 Under our actual capital structure, our business plan generates financial ratios consistent with an investment grade credit rating of BBB+ (S&P: Class A debt)/Baa1 (Moody's CFR)⁶⁹. This view is supported by our expert financial advisors, Evercore, who independently concluded⁷⁰ that the company's business plan is financeable, and estimated the implied credit rating at BBB+ (S&P: Class A debt)/Baa1 (Moody's CFR) or above. Please see Section 4 above for further information on this point.
- 7.12 Nevertheless, we have considered risks relating to the potential impact of a credit rating downgrade.
- 7.13 TWUL is in regular dialogue with a core relationship group of 16 investment banks as well as existing and potential new investors in key debt markets. The company's relationship banks, which have market leading debt capital market credentials in each of the major currencies, have provided an assessment of our ability to satisfy our financing requirements over AMP7, including senior, subordinated and Holdco debt.
- 7.14 Our banks' assessment can be found in Appendix TW-RR-A8, indicating ample capacity to source the £5.4bn of funding which we will need to execute over AMP7 under our revised submission.
- 7.15 Their view is that even in the event of a one notch credit rating downgrade, there would still be ample capacity in each market, albeit subject to an increase in our cost of debt.
- 7.16 We have considered the impact of such an increase in our cost of debt in our financial resilience testing, as described below, and conclude that it would not impact our financial resilience.

Risk of market disruption

- 7.17 The debt markets have historically exhibited a high degree of resilience, even during periods of great financial stress.
- 7.18 The longest periods without Euro or Sterling investment grade during the 2008-9 financial crisis and the 2010-12 Eurozone crisis by far the most extreme periods of financial instability in the last decades were two weeks and five weeks respectively.
- 7.19 It is our policy to plan for upcoming maturities and other significant financing requirements well in advance, further mitigating the risk of any periods of market disruption.

⁶⁹ Specifically, a BBB+ rating by S&P for Class A bonds and a Baa1 corporate family rating by Moody's

⁷⁰ Evercore, TSD355-PR19-Financial Covenant 3 and Financeability Assurance (September 2018 submission)



- 7.20 All our debt is investment grade and our plan is supportive of our current ratings, as described above.
- 7.21 Our Holdco is sub investment grade. Sub investment grade markets are typically more sensitive to overall financial market conditions than investment grade markets. However, while an inability to access sub investment grade markets could impact the timing of implementation of our degearing programme, our financial resilience would not be impacted, as a result of the contractual ring-fencing provisions in place at TWUL, as described in the paragraphs below.
- 7.22 Please see Appendix TW-RR-A8 for further information on market access during periods of financial turbulence, provided by our banks.
- 7.23 The extensive liquidity facilities we maintain at Opco and Holdco, and the support of our relationship bank group, further increase their resilience to any periods of market disruption, as described below.

Liquidity and bank support

- 7.24 Should any periods of significant market disruption or unfavourable market conditions occur, our resilience is supported by the extensive liquidity facilities which we maintain at Opco and Holdco, as well as our relationship bank group's demonstrated support for our financing activities.
- 7.25 The WBS requires Opco to maintain substantial liquidity facilities, intended to ensure that it is able to meet financial and operational cash flow requirements for the next 12 months:
 - Debt Service Reserve Liquidity Facility equal to interest payments for the next 12 months; and
 - Operation & Maintenance Reserve Facility equal to 10% of projected opex and maintenance capex for next 12 months.
- 7.26 Furthermore, if forecast operating cash flow and available credit facilities (excluding the Debt Service Reserve Liquidity Facilities and Operation & Maintenance Reserve Facility) for the next 12 months are less than forecast capex, working capital and hedge termination payments for the same period, Opco is prohibited from making any distributions.
- 7.27 These liquidity facilities must be provided by counterparties with minimum short-term ratings of P-1/A-1 from S&P and Moody's.
- 7.28 Beyond these provisions of the WBS, we have a policy of maintaining a revolving credit facility ("RCF") at a level which ensures a minimum of £250m of committed liquidity above forecast net cash requirements over the next 15 months.



- 7.29 Reflecting the above, we currently have committed liquidity of £2,196m:
 - £550m liquidity facilities (upsized in August 2018, consisting of £400m Debt Service Reserve Facility and £150m Operations and Maintenance Reserve Facility); and
 - RCF of £1,646m.
- 7.30 We renewed and upsized our RCF from (an already large) £950m in November 2018, in anticipation of our AMP7 funding requirements and in order to increase the financial resilience of Opco. The RCF has a five year term and two one-year extension options, with scope to ultimately extend to 2026.
- 7.31 The upsized RCF demonstrates the support provided by our relationship bank group and provides further assurance of our ability to meet the funding requirements of our revised Business Plan even in the event that market access is interrupted, representing 97%% of our largest annual financing requirement during AMP7.
- 7.32 We also maintain substantial liquidity at the Holdco level, similar to our policy at Opco.
- 7.33 The covenants of certain of our Holdco financings require us to maintain liquidity facilities at Holdco, covering interest payments for at least the next 12 months.
- 7.34 We currently have a £110m revolving credit facility at the Holdco level, substantially exceeding the amount required under this covenant. We upsized this facility from £65m in H2 2018-19, in anticipation of the increase in Holdco debt which we expect under our degearing plan and in order to improve the financial resilience of Holdco.
- 7.35 Holdco also benefits from the strong support of our relationship bank group, who have demonstrated their appetite to support our financing activities at this level. For example, in autumn 2018, in addition to providing the £110m RCF, six of our relationship banks obtained approvals to provide a £400m 18-month bridge facility to backstop our refinancing of a £400m Holdco bond maturing in April 2019.

C Subordinated (Class B) debt funding

- 7.36 £600m of TWUL's subordinated (Class B) debt is due to mature over AMP7 (comprising £300m in each of 2022-23 and 2023-24). We also intend to raise a small additional amount of Class B debt, although our total Class B debt outstanding as a % of RCV will decline slightly over the period.
- 7.37 We are confident that there is ample capacity in the Sterling public and USPP markets for our Class B financing needs. This evaluation has been confirmed by our relationship banks in the assessments of market capacity described above. They have also stated that such market capacity would remain available in the case of a one notch downgrade to our credit rating.



- 7.38 In view of the relatively small quantum of Class B debt in our capital structure, any increase in the cost of newly issued Class B debt as a result of a downgrade would not have a material impact on our overall interest expense.
- 7.39 We also note that we are not required to maintain an investment grade rating for our Class B debt under the terms of our license or the terms of any of our financings.
- 7.40 We note that the £1,646m RCF includes a £214m Class B tranche which mitigates further any subordinated debt refinancing risk this covers more than 70% of our maximum annual Class B maturities in AMP7.

D Degearing plans – new Holdco debt funding and TWUL cash injections

- 7.41 As mentioned in our September 2018 plan and as confirmed within our April 2019 Submission within TW-RS1, we plan to degear TWUL by raising debt at Holdco and injecting the proceeds into TWUL. The exact timing of this degearing will be determined by market conditions: similar to our funding approach for TWUL, we will raise Holdco debt on an opportunistic basis to minimise interest costs. Given normal variation in market conditions and the commercial sensitivity of any issuance plan, we do not think that it is appropriate to commit to a year by year degearing profile. Nevertheless we expect that degearing via cash being injected into TWUL will take place around the time when existing TWUL debt matures so as to minimise the carry cost of the new Holdco debt.
- 7.42 It is worth noting that we have already begun to implement the degearing plans described in our initial submission. In November 2018, £650m of debt was raised at the HoldCo level via the private debt market. £400m of this amount will be used to refinance Holdco debt maturing in April 2019. The remaining c. £250m will be injected into TWUL to reduce gearing and increase TWUL's equity buffer in April 2019. As such, we have already executed 29% of the £850m incremental Holdco debt outlined in our resubmission, the proceeds of which we expected to inject into TWUL as part of our deleveraging plan.
- 7.43 The transaction in November 2018 was the largest issuance by any UK water Holdco to date, and was met by strong demand from a diverse group of high quality UK and international accounts, demonstrating the strength of the Holdco credit and our ability to carry out large financings at the Holdco level.
- 7.44 Our relationship banks agreed to provide a £400m, 18-month bridge facility to backstop this transaction as described above, demonstrating their high degree of confidence in the strength of our Holdco's credit and our ability to execute sizeable fundraisings at the Holdco level.
- 7.45 Our deleveraging plan requires us to raise further new incremental debt at the Holdco level by the end of AMP7 such that we inject £600m more cash into the business. For more details please see Section 4 of TW-RS1.



- 7.46 Subsequent to the £650m issuance we have received indications of interest in further Holdco issuance from potential investors with significant financial resources and experience in infrastructure Holdco lending.
- 7.47 Our ability to achieve our plans is further supported by limited requirement to refinance existing Holdco debt during the period to the end of AMP7, with the only Holdco maturities during this period being £250m in 2022 and £190m in 2024.
- 7.48 Our relationship banks have also provided an assessment of market capacity for Holdco issuance, again indicating sufficient market capacity for our needs. They have also stated that such market capacity would remain available in case of a one notch downgrade to our credit rating, please see TW-RR-A8.Based on our past performance and indications from our financing banks, we are confident of reducing gearing to c. 77.7% by the end of AMP7 based on our revised totex plan, neutral operating performance and forecasted AMP6 performance and assuming normal market conditions.
- 7.49 Nevertheless, we note that our proposed Holdco issuance programme is very substantial in the context of the overall market for sub-investment grade Sterling debt, and even more so for sub-investment grade Sterling Holdco debt. As can be seen from TW-RR-A8, even if we were to fund a majority of our proposed issuance programme in private markets, we would be among the largest issuers of Sterling sub-investment grade debt.
- 7.50 Section 4 of TW-RS1 also discuss the execution risk associated with raising the level of Holdco debt, especially when taking into account the refinancing needs of Holdco over AMP7.
- 7.51 Whilst we recognise the challenges, we have considered the practical issues associated with raising such debt and believe it to be achievable.
- 7.52 We will explore the possibilities of stretching our de-gearing beyond these planned levels, aiming towards the mid-70s.

E Impact of existing Holdco debt on TWUL – contractual ring-fencing and governance protections

- 7.53 As described in CSD009 of our September Business Plan submission, risks associated with debt at the Holdco level remain with our shareholders. TWUL along with its operations and our provision of services to customers are fully isolated from any risks associated with debt (or other risks) at the Holdco level. This includes any situations where Holdco is unable to meet interest or principal payments on its debt, for example, if it does not receive sufficient dividends for these purposes.
- 7.54 This view is underpinned by provisions contained in our WBS documentation and governance arrangements at the TWUL level, which have been strengthened in AMP6. These strengthen the regulatory ring-fencing provisions of our license the interests of Opco creditors in preserving the value of TWUL and the stability of its operations are fully aligned with those of our customers.



Ring-fencing provisions

- 7.55 One of the fundamental aims of our WBS is to insulate creditors at the TWUL level from external risks, including at the shareholder or Holdco level. Among numerous other provisions, dividends are prohibited in the event the Company's financial performance deteriorates beyond certain thresholds, as well as other triggers.
- 7.56 We note that, while these provisions provide important protections to TWUL and its customers in the event that TWUL's financial performance were to deteriorate, under our revised business plan we expect to have sufficient headroom under the financial ratios which restrict TWUL's ability to make distributions to Holdco to continue to make distributions to service Holdco debt.

Governance protections

- 7.57 During AMP6, we have made substantial changes to our governance to reinforce the independence of TWUL, including the following changes which strengthen oversight and governance of dividend payments:
 - The separation of the chairmanships of TWUL and its holding company, with an Independent Chairman at TWUL;
 - Moved to a majority of Independent Non-Executive Directors (including the Chairman) on the Board;
 - Reviewing the skillsets of the Directors, ensuring there is sufficient breadth of operational experience to allow Directors to challenge effectively on all issues;
 - Revising the dividend policy of TWUL to underline the independence of the TWUL Board when considering whether to declare a dividend payment; and
 - Refreshing the relationship between Holdco and TWUL by reviewing reserved matters to reinforce the appropriate degree of independence
- 7.58 We have already taken significant action to strengthen the Board in line with our plans, with the appointment of four independent directors with experience and skills in a range of relevant areas:
 - Alistair Buchanan, former CEO of Ofgem (the energy market regulator), joined the Board in July 2018;
 - Jill Shedden, currently Group Director, Human Resources at Centrica Plc, joined in October 2018;
 - Catherine Lynn, former Group Commercial Director of easyJet Plc, joined in November 2018; and
 - David Waboso, former Managing Director, Digital Railway at Network Rail, joined in February 2019.



- 7.59 As a result, we are now in a position where our independent Directors (including the Chairman) are in the majority on the Board.
- 7.60 In addition, in response to Ofwat's IAP feedback, we have provided a detailed methodology for the new dividend policy, as signposted in Section 2, which will further emphasise the performance of TWUL and the interests of customers when considering distributions.
- 7.61 It is important to note that Holdco debt investors do not have any security over TWUL's assets or business, as a result of which there would be no direct impact on TWUL's operations in the event of financial distress at Holdco.
- 7.62 Holdco debt investors do however, benefit from security over TWUL's shares, which they would be able to exercise in the event that Holdco does not fulfil its obligations to them. Given the substantial (and increasing) equity cushion at TWUL, this provides a strong motivation for our ultimate shareholders to resolve any financial problems at the Holdco level in order to prevent the sale of these shares, for example through the contribution of new equity (in addition to the factors described in "Shareholder Support" below).

Rating agency views on ring-fencing

- 7.63 Credit rating agencies recognise that TWUL is insulated from risks at the Holdco and shareholder level, and that the servicing of Holdco interest is wholly dependent on dividends from the Company, which are at TWUL's discretion and subject to numerous restrictions under the terms of the WBS and TWUL's governance arrangements.
- 7.64 This is reflected in their ratings of Holdco debt (rated B1 by Moody's, compared with TWUL's Baa1 Corporate Family Rating), and explicitly stated in their analyses of both Holdco and TWUL:

"where a comprehensive suite of business and financial covenants exists, as most commonly seen in the UK water sector [for example, in TWUL's WBS], an operating company's credit quality can not only be fully insulated from the risks associated with other group companies, but in certain circumstances it can also benefit from creditenhancing features."

- Moody's, 9 October 2018

"Thames Water's Baa1 CFR also takes into account the covenant and security package agreed by the company, which is designed to insulate the company's creditworthiness from that of its ultimate shareholders and improve creditors' protection in a default scenario."

- Moody's, Thames Water Utilities Limited, 29 May 18

"Whilst Thames Water's covenant and security package provides additional protection for creditors at the operating company level, it is detrimental to the credit quality at the holding company. The holding company relies exclusively on distributions from the operating company to service its debt, and the distribution lock-up covenants at the



operating company increase the risk of limited or no dividends being paid to the holding company...

"Whilst Thames Water's covenant and security package provides additional protection for creditors at the operating company level, it is detrimental to the credit quality at the holding company. The holding company relies exclusively on distributions from the operating company to service its debt, and the distribution lock-up covenants at the operating company increase the risk of limited or no dividends being paid to the holding company...

"The assigned B1 rating to the Kemble notes is notched down from Kemble's consolidated credit quality and reflects the deeply subordinated nature of creditor claims at Kemble level given the group's financial and contractual arrangements."

- Moody's, Thames Water (Kemble) Finance PLC, 30 May 18

"RFFGs [ring-fenced financing groups, i.e. Whole Business Securitisation structures like that at Opco] benefit from structural enhancements designed to reduce the risk of nonpayment of scheduled debt service payments at the RFFG. These, in turn, increase the risk of default at the holding company level because cash flow payments from the RFFG to the holding company can be stopped earlier and more easily than for standard corporate groups."

- S&P, Methodology: Holding Companies That Own Corporate Securitizations And Structurally Enhanced Debt Transactions, 16 February 2016

F Assessment of financial resilience

Approach to the assessment of financial resilience

- 7.65 We have assessed the financial resilience of our April 2019 Business Plan using, in general, the same methodology outlined in our previous submission in September 2018. Any refinements to the methodology have been made to take into account our responses to Ofwat's IAP such revisions are outlined below. Our analysis has also been updated to reflect the updated totex plan and ODIs contained in our resubmission.
- 7.66 The same criteria as stated in our initial submission have been used to assess financial resilience as a reminder these are outlined below:
 - Sufficient liquidity to meet financial obligations as they fall due;
 - Compliance with our key financial covenants; and
 - Maintaining an investment grade rating (Moody's CFR and S&P Class A), as part of our licence conditions and in order to maintain optimum market access.



- 7.67 The ten year assessment period also remains unchanged⁷¹.
- 7.68 Similar to before, financial resilience has been evaluated based on four combined downside scenarios. As with downside scenario 1 (adverse weather with poor economic growth) mentioned above in Chapter 6, we have made similar adjustments to the other downside scenarios to reflect our revised view of operational performance in AMP6.
- 7.69 Taking on board Ofwat's comments, we have also applied the following two additional adverse events to all four downside scenarios over the assessment period:
 - (a) An increase in the cost of new debt issuance by 35bps so as to factor in any potential credit rating downgrade (based on a 25-40bps estimate by our expert financial advisors Evercore of the impact); and
 - (b) Gearing sharing mechanism ("GSM"), the negative impact of which is experienced in AMP8. Whilst we disagree with Ofwat's GSM in principle, we recognise that the regulator may want to apply its proposal. To be prudent, we have modelled the impact of applying Ofwat's default GSM in full.

Results of stress testing – demonstrating financial resilience

Liquidity analysis

- 7.70 Since our initial business plan submission in September 2018, we have significantly upsized our liquidity facilities by c. 33% from £1,450m to £2,916m, increasing our RCF from £950m to £1,646m.
- 7.71 Given our enlarged liquidity sources and reduced financing needs derived from a lower totex plan, we continue to believe it is reasonable to assume that we maintain efficient access to capital markets and that our relationship banks would carry on in their support of our liquidity facilities and other financing activities over the assessment period.
- 7.72 Our liquidity resilience is further demonstrated by our relationship banks' assessment that even in the event of a one notch credit rating downgrade, there would still be ample capacity in each market, albeit there would be an increase in our cost of debt.
- 7.73 Please see subsection "B Demonstrating efficient access to capital markets" above for more evidence on these points.

⁷¹ Our assessment period of 10 years remains unchanged. As our audited financial accounts for the year ending 31 March 2018 are only available in July when we publish our 2018/19 annual report, we have assumed the forward looking assessment period to be from 1 April 2019 to 31 March 2028. In doing so, we ensure consistency of methodology with other Long Term Viability Statements contained in past and upcoming annual reports.



Covenant compliance

7.74 Similar to September, the analysis shows that we are able to operating within the financial covenants for all four downside scenarios. Details of our analysis are contained in TW-RR-A10.

Maintain investment grade

- 7.75 Again, we expect to be able to maintain an investment grade rating (Moody's CFR and S&P Class A) for all the four downside scenarios. Evidence supporting this assessment is contained in TW-RR-A10.
- 7.76 We do not consider maintaining an investment grade rating for our Class B debt to be necessary in order to demonstrate financial resilience, as described in "C. Subordinated (Class B) debt funding" above.

Conclusion

7.77 Considering the above factors, we conclude that Thames Water is financially resilient. This conclusion has been made assuming capital markets continue to operate under normal market conditions.

Assessing financial viability in the context of Ofwat scenarios

- 7.78 We have also assessed the impact of the Ofwat scenarios on our financial viability similar to what was performed in our September business plan submission. As a reminder, the Ofwat prescribed scenarios are outlined below:
 - 1. Totex underperformance (10% of totex)
 - 2. ODI penalty (3% of RORE) in one year
 - 3. Inflation (high RPI 4%, CPIH 3% low RPI 2%, CPIH 1%)
 - 4. Increase in bad debt (5% over current bad debt levels)
 - 5. Net debt cost increase (+2% over projections)
 - 6. Financial penalty (3% of revenue)
 - 7. Any relevant intercompany financing scenarios
 - 8. Combined scenario:
 - a) Underperformance of both totex and retail expenditure of 10%,
 - b) ODI penalty equivalent to 1.5% of RORE
 - c) Financial penalty (1% of revenue in one year)



Conclusion

7.79 In general, our revised analysis yields results similar to our September 2018 Business Plan submission – we are now able to demonstrate financial viability for all Ofwat scenarios. Details of our assessment of the Ofwat scenarios are contained in TW-RR-A10.

G Other

Additional downside analysis - extreme, low likelihood scenarios

- 7.80 In its report titled "Resilience Assessment" (CSD007), Arup recommended that we conduct additional scenario analysis to determine what type of scenarios would be severe enough to cause an Event of Default ("EoD") (i.e. breach of our financial covenants).
- 7.81 In the spirit of good governance we had already performed such an assessment as part of our LTVS analysis.
- 7.82 We considered what combinations of individual downsides were most appropriate to establish various extreme downside scenarios. Specific details of these extreme scenarios are contained in TW-RR-A9. These scenarios would give rise to an EoD under the WBS if they were to take place, the consequences of which would be as described in CDS009 of our September 2018 Business Plan submission. However, we believe the crystallisation of such unprecedented downsides to be remote and unlikely to occur given the extreme nature of the events in the scenarios.
- 7.83 Furthermore, as outlined in CSD009 of our September 2018 Business Plan submission, the WBS structure contains features (e.g. provision of a creditor standstill period) that provide protection to customers were an EoD to occur, building on the protections contained in our licence.

Conclusion

7.84 Considering such additional scenario analysis, we conclude that Thames Water is financially resilient and, critically, that the underlying regulated business would survive the scenarios and customer interests would be fully protected.

Shareholder support during periods of stress

- 7.85 Our financial resilience further benefits from the strong support of our institutional shareholders.
- 7.86 Our shareholder base is now almost entirely comprised of pension funds and sovereign wealth funds, with extensive financial resources, very long-term investment horizons which are aligned with our investment profile, and other resources and expertise that are made available to us where needed.



- 7.87 Our investors include some of the largest and most sophisticated financial investors globally, with extensive experience of direct investment and ownership of infrastructure businesses. Our pension fund shareholders alone look after the pensions of over 1.5 million individuals from the UK, Commonwealth and EU countries.
- 7.88 Since 2017, new investors have, in aggregate, acquired over 51% of our shares, demonstrating their confidence in Thames Water and our investment plans and their willingness to back this conviction with a very substantial commitment of capital.
- 7.89 Their commitment to the long-term resilience of the business and delivery for customers has been further evidenced by their prioritisation of investment in the business over external distributions in AMP6 (having supported the Board's decision to make no distributions to our shareholders' investment funds in the three year period from 2017/18 to 2019/20 as described in TW-RS1-Building a Better Future: Response to Ofwat's Initial Assessment of Thames Water's PR19 Business Plan) and their support for our AMP7 investment and degearing plans.
- 7.90 At the end of AMP7, our April Business Plan results in an equity buffer of £4.3bn. The large equity buffer provides a strong incentive for shareholders to provide additional equity support were Thames Water to be negatively impacted by short-term factors (e.g. operational issues, market volatility etc.) which threatened our financial resilience, in order to protect their existing investment.
- 7.91 Thames Water is one of the most high profile infrastructure businesses globally. Reputational considerations would also imply a willingness to provide financial support in these circumstances, as failure to do so could negatively impact government and other key stakeholder perceptions of their acceptability as a reliable investor in critical infrastructure assets.

Living will

- 7.92 While we conclude that we are financially resilient, we acknowledge that the Special Administration regime plays an important role backstopping the provision of services to customers. For avoidance of doubt, we consider the Special Administration regime to be a "last line of defence", to protect customers in extreme circumstances, and do not consider it to be part of our risk management framework or a mitigant to the risks to which we are exposed.
- 7.93 We are therefore currently in the process of evaluating the benefits of adopting a living will mechanism in order to ensure the optimal operation of the Special Administration regime were it ever to be applied to TWUL. In doing so, we seek to incorporate best practice from the financial services, oil and gas and other sectors. We have discussed our approach with both Deloitte and EY and will be developing our living will mechanism to ensure it meets best practice, is appropriate to, and is fully "owned" by Thames Water.



Section 8

Financial model

A Introduction

- 8.1 This section explains our approach to financial modelling, what models we have used, and what assurance we have put in place to ensure that we can rely on the outputs included within our business plan.
- 8.2 Following this introduction the remainder of this section is structured as follows:
 - Subsection B sets out our updated assumptions for inflation;
 - Subsection C confirms the basis of accounting;
 - Subsection D explains our approach to tax;
 - Subsection E summarises our updated view of the PR14 reconciliation, taking into account our latest estimates of expenditure and performance;
 - Subsection F explains how our revenues are impacted by the Thames Tideway Tunnel IP;
 - Subsection G sets out which models we have used for preparing different aspects of our business plan;
 - Subsection H provides additional information regarding how we have populated, used and assured the Ofwat PR19 financial model; and
 - Subsection I provides equivalent information regarding our internal financial model.

B Inflation

- 8.3 We have revised the inflation data in our plan to reflect actual indices up to and including the November 2018 RPI and CPIH. This ensures the inflation forecast is consistent with the actual RPI index implicit in our revised 2019/20 revenue forecast.
- 8.4 A summary of how our inflation forecast is derived as follows:
 - Actual monthly indices up to November 2018, as published by the Office for National Statistics (ONS);


- Indices between December 2018 and December 2020 are a simple arithmetic average of the monthly forecasts provided by four financial institutions: Barclays plc, HSBC Bank plc, The Royal Bank of Scotland plc (RBS) and Morgan Stanley;
- Between January 2021 and December 2022 the indices are calculated based on the independent average of forecasts (annual average, per cent) from the report "Forecasts for the UK economy", published by HM Treasury in November 2018;⁷² and
- For subsequent dates, the indices are based on the Bank of England CPI annual inflation target of 2%, assuming that in the long term CPIH will keep tracking CPI closely and that the RPI-CPI wedge will remain at approximately 1%.

C Basis of accounting

8.5 We have made no changes to the accounting basis upon which our plan is based compared to those set out in CSD009–PR19–Finance and Financeability of our September 2018 business plan. Reference should be made to that document for the detail regarding how we have accounted for projections in AMP6 and AMP7, together with our assumptions for treatment of leases.

D Taxation

- 8.6 Our business plan now includes a tax funding requirement of £13.5m for AMP7, comprising £4.9m in 2023-24 and £8.6m in 2024-25. The change from £nil tax funding in our previous submission has arisen due to a number of factors including:
 - Capital expenditure in AMP7 has decreased, reducing the capital allowances available;
 - The government has reduced the capital allowances rate on the long life asset pool from 8% to 6%;
 - We have now removed the tax deduction for pension deficit repair payments in 2023-24 and 2024-25, as these are not funded by customers; and
 - The above factors are partially offset by an adjustment which now eliminates the taxation of Thames Tideway property disposal proceeds through capital allowances. The disposals are instead taxed through the chargeable gains regime (and are expected to produce net losses).

⁷² Forecasts for the UK economy: a comparison of independent forecasts, HM Treasury, November 2018



- 8.7 The methodology and assumptions outlined in our previous submission continue to apply with the following updates:
 - The accounting treatment of infrastructure charges income under IFRS15 has now been determined and the tax treatment has been updated accordingly; and
 - Capital allowance pools have been updated for the company's most up to date tax computation for the year ended 31 March 2018.
- 8.8 In practice, the company may be able to claim group relief from non-regulated group companies such that no tax is payable to HMRC. If the company does not pay for group relief at the standard rate of corporation tax, Ofwat's "clawback" provisions may apply.

E Impact of AMP6 adjustment mechanisms

Revenue adjustments

- 8.9 PR14 reconciliation adjustments for wholesale revenue are shown in PR19 April 2019 data tables Wr3, Wn3, WWn5, Bio4 and Dmmy7, reflecting the following PR14 reconciliation mechanisms, based on our revised AMP6 forecast:
 - Totex menu incentive
 - WRFIM
 - ODIs
 - Water trading
 - PR14 Blind year (2014/15) adjustments
- 8.10 PR14 reconciliation adjustments for retail are identified in PR19 April 2019 data tables R9 (PR14 reconciliation of household retail revenue)⁷³ and R10 (SIM).

RCV adjustments

8.11 AMP6 adjustment mechanisms also generate midnight adjustments to the RCV, as shown in PR19 April 2019 data table App8. The adjustments reflect the following PR14 reconciliation mechanisms, based on our revised AMP6 forecast:

⁷³ As part of our revised business plan, we include an updated Household Reconciliation Model, FM12, "pap_tec20160216hhrecon TMS Apr19 v3.xlsx". This incorporates all the relevant calculations, as identified in Ofwat IAP Action TMS.PD.A4



- CIS RCV inflation correction
- Totex menu incentive
- PR14 Blind year (2014/15)
- NPV effect of 50% of proceeds of disposals of interest in land
- Other adjustments (Counters Creek and SC9)
- 8.12 As discussed in our July 2018 submission, our alternative approach to protecting properties in the Counters Creek area from flooding due to rainfall will save a considerable amount of money (c.£120m, 2012/13 prices).
- 8.13 In our September 2018 business plan we proposed to return 100% of this saving to customers through two adjustments:
 - Removing the effect of the totex outperformance from the totex reconciliation model, to ensure that none of the outperformance is shared with customers through this route; and
 - Removing 100% of the allowance from the RCV, as a midnight adjustment at the end of AMP6.
- 8.14 Following Ofwat's IAP feedback (including Action TMS.PD.A6), we now take a different approach to returning 100% of the saving to customers;
 - We make no adjustments to the totex menu. The underspend associated with Counters Creek therefore automatically returns 49.6% (i.e. 1 minus 50.4%, the wastewater totex sharing rate) of the saving to customers; and
 - We make a downward adjustment to the RCV to return the remaining 50.4% of this underspend to customers.

F Thames Tideway Tunnel infrastructure provider revenue

- 8.15 Our plan reflects the position reached in development of the delivery model for the project that the revenue requirement for the Infrastructure Provider (IP) continues to be billed by Thames Water on its behalf. In order to effect that arrangement we have assumed that the TTT IP will bill the wholesale wastewater business within Thames Water, and that the costs of the TTT IP would then be passed on to the relevant retailer (whether that be Thames Water retail or a third party retailer) as a separate wholesale pass-through.
- 8.16 Whilst the TTT IP revenue pass through is not subject to any price control set for Thames Water, we do include it in our plan as the revenue will form part of the overall bill impacts on customers, which we report on and assess.



- 8.17 For convenience, we present the TTT IP impact on Thames Water bills within our summary of the separate TTT project price control, however, for the avoidance of doubt, the TTT IP revenues do not form part of the Thames Water TTT project price control.
- 8.18 Bazalgette Tunnel Limited (the TTT IP) has provided updated revenue projections to us for the purposes of our April 2019 business plan preparation and to assist in communicating to customers overall bill impacts including the charges we pass on for the IP. We understand that the TTT IP has calculated its revenue requirement based on cost plus P50 risk value. This value is subject to change as the TTT delivery mechanism and project cost estimation develops.
- 8.19 The revenue requirement arising directly from the IP is summarised in the table below.

Revenue (£m)	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7 Total
TTT IP	Redacted	Redacted	Redacted	Redacted	Redacted	Redacted

 Table 20: Revenue pass-through from wholesale TTT price control to the TTT IP

Source: Data table App21 & Ofwat financial model (2017/18 year average prices)

G Overview of financial modelling

- 8.20 We have primarily used the Ofwat PR19 financial model for our business plan submission, including for calculating cash flows, notional financeability ratios and customer bill impacts associated with our plan.
- 8.21 We also maintain an internal financial model, which we use as a cross-check against the outputs of the Ofwat PR19 financial model, and in order to do additional financeability testing on an actual balance sheet basis, including testing the impact of downside scenarios against our actual covenant ratios.

H Ofwat PR19 financial model

Overview

- 8.22 In our business plan submission we include three versions of the PR19 financial model, using the revised model published on 6 March 2019, 'PR19-17z.xlsb'. The models are aligned, apart from the notionalisation approach, as follows:
 - 'PR19-17z TMS 1.7.xlsb': Reflects our actual structure. This model is used as the basis for PR19 April 2019 data tables App11, App12, App13, App14, App15, App16, App19 and section B of App10.



- 'PR19-17z TMS 1.7 Ntl Str only.xlsb': Adjusts to reflect the notional structure, in line with the notionalisation process described in the Ofwat PR19 financial model User Guide (rows 144 202 of the "User Guide" tab of the model), but still includes the PR14 reconciliation adjustments, i.e. cell F1182 on InpOverride is set to 1. This model is used as the basis for PR19 April 2019 data tables App11a, App12a, and App15a.
- 'PR19-17z TMS 1.7 Notional.xlsb': In addition to the notionalisation adjustments, this also turns off the PR14 reconciliation adjustments, i.e. cell F1182 on InpOverride is set to 0. This model is used as the basis for section A of App10.

Model input detail: F_Input tab

8.23 In general we have populated the financial model from the PR19 April 2019 data tables, in line with the published mapping tool. We have populated all cells indicated by the mapping tool, as well as other cells that are used by the model for the business plan period. We have diverged from the mapping tool in some circumstances in order to reflect how the model uses the inputs. The rows in the F_Inputs tab where we have diverged from the mapping tool are as discussed below:

F_Inputs row 70: Residential retail advance receipts creditor days unmeasured

- 8.24 We have populated unmeasured advance receipts creditor days in the model in line with the unmeasured advance receipts creditor days identified in the commentary to PR19 April 2019 Data Table App14.
- 8.25 There are two minor differences between how the Ofwat financial model uses this input data, and how App14 line 22 is calculated, leading to a small difference (no change to one decimal place) between the F_Inputs row 70 and App14 line 22:
 - Table R7 is populated in line with the revenue collected through the household retail price control, consistent with Retail_Residential row 353, in total. This is used as the retail revenue input to the calculation in App14 Block C. However, for financial statements and cash flows, then the Ofwat PR19 financial model uses a retail revenue that excludes any margin on the TTT pass-through revenue to BTL (retail revenue calculated in Retail_Residential row 216). This approach is as referred to in the Ofwat query response reference 562.
 - The allocation of tax funding revenue in the Ofwat model for calculating working capital follows the same allocation by customer type (household / non-household, measured / unmeasured) as the pre-tax revenue requirement. This generates a small discrepancy between the Ofwat model and the PR19 data tables, as the data tables calculate the working capital associated with the tax funding based on the particular price controls that have tax funding. This only affects the final 2 years of AMP7, as those are the only years where there is tax funding. As the differences generated are not considered material (<£1m) they are not reconciled further.</p>



F_Inputs row 74: Residential retail measured income accrual rate

- 8.26 We have populated the residential retail measured income accrual rate in the model in line with the rate shown in the commentary for App13.
- 8.27 The two differences identified for "F_Inputs row 70, Residential retail advance receipts creditor days unmeasured" above also generate a small difference between F_Inputs row 74 and App13 line 25.

F_Inputs row 78: Retail creditor months - Payment terms - Business retail pays wholesaler in arrears (advance)

8.28 PR19 April 2019 Data table App14 row 27 includes the forecast payment terms that for the business retail paying wholesale. In the model F_Inputs row 78 we have set these to zero, to ensure that this input does not distort the overall Appointee position (including a non-zero value in this F_inputs row generates a cash flow and balance sheet in the FinStat_Business tab).

F_Inputs row 80, 81: Residential retail unmeasured trade debtors and Residential retail measured trade debtors

- 8.29 We have populated the debtor days in the model in line with our forecast debtor days shown in the commentary for App13.
- 8.30 The two differences identified for "F_Inputs row 70, Residential retail advance receipts creditor days unmeasured" above also generate a small difference between F_Inputs rows 80-81 and App13 lines 20-21.
- 8.31 Note that the underlying debtor balances in the PR19 financial model are calculated using the average debtor days balance in F_Inputs row 198 (see below).

F_Inputs row 114: Trade and other receivables ~ net

8.32 App13 row 11 includes wholesale's trade and other receivables, including amounts due from the retail price controls, as discussed in the PR19 April 2019 App13 data table commentary. A breakdown of App13 row 11 is shown in the table below.

Table 21: Wholesale trade and other receivables

Wholesale trade and other receivables analysis	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Wholesale trade receivables due from residential retail	127.1	127.5	134.6	140.7	146.3	151.6
Wholesale trade receivables due from business retail	33.5	33.7	36.0	38.0	39.8	41.6
Other wholesale trade receivables	79.2	82.6	93.4	95.2	87.3	81.3
Wholesale trade and other receivables per App13 row 11	239.8	243.7	263.9	273.9	273.5	274.5

Source: Thames Water analysis



- 8.33 The PR19 financial model takes the input from F_Inputs row 114 and adds on a calculated amount for the wholesale trade receivable due from the residential retail price control. We do not therefore include the amounts due from the residential retail price control in F_Input row 114, as that would double count this wholesale receivable.
- 8.34 The wholesale trade receivables due from the business retail price control are calculated as zero in the PR19 financial model (given F_Input row 78 being set to zero, as noted above). We therefore add the wholesale trade receivable due from the business retail price control to the other wholesale trade receivables. For the AMP7 inputs, these are included in F_Inputs row 114. For the opening position we make the adjustment in InpActive cell K1601.

F_Inputs row 127, 128: Floating rate debt issued and Floating rate debt repaid

- 8.35 When the opening floating rate debt is negative the financial model does not reflect floating rate debt repayments (see, for example, Water Resources rows 1394 1402).
- 8.36 In order to generate the correct cash flows we have therefore moved the Floating debt repayment from F_Inputs row 128 to F_Inputs row 127. This generates the appropriate change to the floating rate debt balance via a change to the debt issued, rather than the debt repaid.
- 8.37 For reference, we have included a switch in the Financial model (F_Inputs E128) to show the impact of this change.

8.38 F_Inputs row 198: Residential retail average trade debtors days

8.39 We calculate our trade receivables based on the unmeasured and measured debtor days (identified in the commentary to App13) as shown in the table below:

Table 22: Summary debtor days

Summary debtors days	2020-21	2021-22	2022-23	2023-24	2024-25
Residential retail unmeasured trade debtor	32.0	31.8	30.6	29.0	27.3
Residential retail measured trade debtors	45.7	45.5	43.8	41.5	39.2
Source: Thames Water analysis					

- 8.40 We expect these unmeasured and measured debtor days to apply to the unmeasured and measured residential revenue respectively.
- 8.41 We have calculated the trade receivables based on the debtor days noted above, and the actual forecast unmeasured and measured residential revenue. Once the total trade receivables are calculated, we calculate the total average debtor days that would generate the same total trade receivables balance. The calculation is added to the end of the Retail_Residential tab, particularly:
 - Calculation of revenue breakdown in rows 835 943;
 - Calculation of unmeasured and measured trade receivables, given our forecast debtor days in rows 945 – 950; and



- Calculation of average debtor days to generate correct total trade receivables, in rows 953 954.
- 8.42 The data in Retail_Residential 954 is therefore used as the average debtor days input data in F_Inputs row 198.

F_Inputs rows 387-396: Cost of debt, cost of equity and gearing

8.43 As we are using Ofwat's early view of WACC in our business plan, we have populated these rows based on Section A of the wholesale cost of capital data tables (reflecting the notional structure), rather than the Section B (reflecting the actual structure).

F_Inputs row 432: Average total combined bill

- 8.44 This row is defined in 2017/18 prices. App7 row 41 is defined in outturn prices for 2018/19 and 2019/20. We therefore use CPIH to convert the data in App7 row 41 into 2017/18 prices, before entering into the financial model.
- 8.45 For AMP7, this row includes the bill due to the TTT pass-through revenue (passed on to Bazalgette Tunnel Ltd), which is not included in App7 row 41. A reconciliation is shown in the table below:

Table 23: Average bills reconciliation

Redacted

Source: Thames Water analysis`

Other input data on F_Inputs

8.46 Other key points to note regarding the population of the F_Inputs tab are noted below:

Business Retail

8.47 Note that inputs related to the business retail price control are set to zero, as we have exited the business retail market.

F_Inputs row 101: Interest receivable (other)

8.48 Note that this interest receivable relates to the interest income from the loan that TWUL is owed from its holding company.

F_Inputs row 265: Water network - End of Period ODIs (+ or -) Value Chosen input – real

8.49 As documented in an email from Sally Irgin to Nick Fincham (dated 1 June 2018) we are proposing that the ODI penalties that we incur (both automatic and over and above the collar) for leakage and SOSI in 2018/19 (and also 2019/20 should any penalties obtain) would be returned to customers through a new mechanism (which was not contemplated under PR14). Under this mechanism, one-off rebates would be applied to bills in 2019/20 bills (and again in 2020/21 and 2021/22). This mechanism will allow the rebate to be made explicit. Furthermore, the email also confirmed that in providing data for average bills for



PR19, Discover Water and related purposes, we should show the underlying household average bills based on tariffs before the customer rebate.

8.50 Given our AMP6 leakage and SOSI forecasts, we are also expecting a further rebate to apply to revenue in 2020/21 and 2021/22. This forecast rebate in 2020/21 would reduce bills by c.£12 in 2020/21 and c.£3 in 2021/22 (2017/18 CPIH prices).

In order to generate the correct forecast cash flows, the model includes the forecast leakage rebate in 2020/21 and 2021/22 (F_Inputs J261 and K261). We have included a switch (F_Inputs F260) to allow this rebate to be turned off, in order to generate the bill profile on a pre-rebate basis, as indicated above.

AMP8 data

8.51 We have populated the input data for the model with our forecast of AMP8 data, noting that such forecasts remain more uncertain than those for AMP7.

Other model inputs

8.52 We discuss below other key inputs that are not on the F_Inputs tab

InpOverride row 893 and 900: Dividend yield and real dividend growth:

- 8.53 When the model is run in the notional structure, the dividend is based on the yield and growth set here.
- 8.54 We use a notional dividend yield of 2.99% growing at 1.28% per annum in real terms, this equates to distributing 70% of the wholesale cost of equity (of 4.27% real, average of RPI-stripped basis and real CPIH-stripped basis) included in the WACC.
- 8.55 We understand that using the wholesale cost of equity in this way to generate notional dividends is in line with the advisory IAP action TMS.CA.B1 "Provide an updated financial model that uses the wholesale cost of equity to calculate dividend yield". This is also consistent with Section 4.4.2 of the Ofwat IAP Technical Appendix 3, Aligning Risk and Return, which indicates that the dividend yield plus growth should not be higher than 4.52%.
- 8.56 We note that using this dividend yield generates broadly flat notional gearing (closing AMP7 notional gearing being 62.6%)

InpActive rows 264, 468, 669, 865, and 1063: Target level of RCV linked to RPI at beginning of AMP8

8.57 For modelling purposes we assume no further RCV is allocated from RPI to CPIH at the end of AMP7. Assuming our AMP7 position (that the impact of the higher CPIH WACC will be reversed though the totex levers) continues into AMP8, a different proportion of RCV allocated from RPI to CPIH would be expected to have a minimal impact on customer bills, cash flows and ratios. We therefore consider this modelling approach is reasonable in order to test affordability and financeability over the longer term. We note that the actual proportion of RCV allocated from RPI to CPIH at the start of AMP8 may be different.



InpActive row 1040: Direct procurement for customers

- 8.58 We have included the TTT pass-through revenue to BTL in this row.
- 8.59 Note that we do not expect any other direct procurement pass-through revenue to occur in AMP7. We have not modelled direct procurement pass-through revenue that may begin during AMP8, but note that given the greater uncertainties around AMP8, this should not materially affect the longer term customer bill or financeability assessment.

Deferred tax

- 8.60 Our analysis of the deferred tax calculation in the model suggests that the calculation may not appropriately reflect:
 - Deferred tax credit on any tax losses carried forward in each year (c.£45m over the AMP); and
 - Deferred tax credit on TTT pass-through revenue to BTL, not claimed yet, but eligible for relief in future years (c.£70m over AMP7).
- 8.61 As these do not affect cash flows, financeability ratios or customer bills, we have not adjusted the calculation when populating the data tables. However, we note that the post-tax profit may be improved by c.£115m if these items were adjusted.

Analysis_Appointee rows 226-227: Gearing calculation

8.62 As previously indicated to Ofwat (email to PR19, 28 February 2018) the RCV used in the gearing calculations in the PR19 financial model is in year average prices, rather than at year end prices, and is therefore on an inconsistent price base with the net debt (which is in nominal prices at the end of the year, rather than year average prices), and is also inconsistent with how gearing is calculated for e.g. financial covenants, rating agencies, and the APR definitions. We have not adjusted this in the PR19 financial model, but note that in our calculation of covenant gearing (App10 row 35) we use the RCV in year-end prices

Bill calculations

- 8.63 The PR19 model version released on 6 March 2019 ('PR19-17z.xlsb') included an additional worksheet ('Bill Module'). This new worksheet is necessary in order to convert the single cost to serve per company (as estimated using econometric models) into the bill impact for different types of customer (in particular, single service and dual customers).
- 8.64 The Bill Module worksheet takes the following approach to calculate the retail allowed revenue per customer for joint service customers:
 - Use the cost to serve data by customer type in R1 to calculate the total cost to serve per total households (Bill Module row 60), and the cost to serve per joint service customer (Bill Module row 61);



- Calculate the ratio between cost to serve per joint service customer and total cost to serve per total households. The ratio is shown in Bill Module row 61; and
- Apply this to the Retail allowed revenue per customer: joint service as calculated in Summary_Calc row 1121.
- 8.65 This approach appears reasonable if the input cost to serve data for the different customer types is populated using a single cost to serve per company (e.g. as derived from econometric models).
- 8.66 However, where the cost to serve data (i.e. F_Inputs rows 10-13, 478-479) is already based on the specific cost to serve per customer type, as articulated in R1, the Bill Module approach will double count the difference between the overall average cost to serve and the cost to serve per joint service customers.
- 8.67 When calculating the retail component for joint service bills therefore, we use the calculation in the Financial Model before application of the Bill Module adjustment. This is taken from Summary_Calc row 1121.
- 8.68 Following this approach, the retail component for joint service bills is in line with the data tables, App7 line 38.
- 8.69 We summarise the average combined bill on a pre-rebate basis in the table below⁷⁴.

Average combined household bill (pre- rebate), 2017/18 prices	Source row (Ofwat model, Summary_Calc)		2020-21	2021-22	2022-23	2023-24	2024-25
Water resources	Row 1171		19.6	20.0	19.2	18.6	19.3
Water network+	Row 1172		173.3	173.7	175.7	177.8	178.5
Waste network+	Row 1173		112.3	110.8	109.8	110.5	111.2
Bioresources	Row 1174		23.7	24.6	25.6	26.0	26.6
TWUL TTT and IP	Row 1175		18.7	19.8	20.2	19.9	19.3
Retail (dual service)	Row 1121		36.8	35.6	33.9	31.4	29.5
Total (2017/18 prices) CPIH: Factor to convert			384.4	384.4	384.4	384.4	384.4
from 2017/18 to 2019/20		1.040					
Total (2019/20 prices)			399.6	399.6	399.6	399.6	399.6
Source: Thames Water analysis							

Table 24: Average bills reconciliation

8.70 Our projected 2019/20 combined household bill in outturn prices (pre-rebate) is £404.8 (App7 line 41). Overall, we are therefore forecasting a c.£5 reduction in average combined

⁷⁴ The pre-rebate bill calculation has the Switch in F_Inputs F260 set to zero, to remove the rebates associated with leakage and SOSI performance in 2018/19 and 2019/20.



household bills, before inflation, as shown in TW-RS1-Building a Better Future: Response to Ofwat's Initial Assessment of Thames Water's PR19 Business Plan.

Tax funding notionalised calculation

- 8.71 When the Ofwat model is populated under the notional structure, this generates a different tax charge than under the actual structure:
 - AMP7 tax charge under actual structure = £13.5m
 - AMP7 tax charge under notional structure = £3.8m
- 8.72 A preliminary analysis of the PR19 financial model indicates that this is due to a change in the interest cost. While the interest costs for the tax calculation in the notionalised model are adjusted to reflect the higher opening actual gearing, they do not appear to be adjusted in subsequent years to reflect the degearing forecast to be achieved in the actual structure. This leads to a higher interest charge in the notional structure tax calculation, generating a lower implied tax charge.

Additional tabs

8.73 We have added one additional tab 'Summary data' to the end of the PR19 model. This collates an extract of key data from elsewhere in the model, which we use to compare to our internal financial model, to ensure the two models are aligned.

Assurance

- 8.74 Assurance over the population of the Ofwat model has followed our internal assurance process. Key features of the assurance we have gained over population of the model include:
 - Population of the PR19 financial model, and then a separate review to confirm appropriate underlying source data has been used;
 - Automatic testing against the mapping tool, where possible. We have built a tool that automatically identifies where data in the F_Inputs tab is inconsistent with the data in the data tables, as specified by the mapping tool. Where there are such discrepancies, they are discussed in the financial model commentary, and in the section above; and
 - Cross-check against the internal Thames Water financial model. This model is populated via a separate process, so if both models generate the same outputs, this provides evidence that both inputs have been correctly populated (see subsection I below).



I Thames Water financial model

- 8.75 We also maintain an internal financial model, which we use as a cross-check against the outputs of the Ofwat PR19 financial model, and in order to do additional financeability testing on an actual balance sheet basis, including testing the impact of downside scenarios against our actual covenant ratios (see section 7).
- 8.76 Our internal model particularly includes additional analysis around our financing structure. This aspect of our financial model, including the associated financial ratios, was assured by Grant Thornton as part of our September 2018 business plan submission.
- 8.77 In order to confirm that the other mechanics of our model are operating appropriately we have compared key outputs between our model and the Ofwat PR19 financial model. Key conclusions from this comparison are:
 - RCV is aligned between the two models;
 - Wholesale revenue is aligned between the two models;
 - Retail revenue (as used in the financial statements) is different by £0.7m per year. The Ofwat PR19 financial model does not include the margin associated with the TTT passthrough revenue to BTL in the calculation of the retail margin, when calculating the retail revenue for cash flows (although noting that the margin on this pass-through revenue will be included in the residential retail price control revenue). Given that we expect this additional margin to be included within the retail revenue, we have not adjusted our financial model;
 - Retail revenue (as used in the retail price control and bill analysis) is different by £0.2m per year. The Ofwat PR19 financial model appears to be calculating the residential retail margin on the full amount of the TTT pass-through revenue, rather than just the residential component of this revenue. While the impact does not appear to be material, Ofwat may consider adjusting the PR19 financial model in any subsequent iteration;
 - Debt balances and interest paid are aligned between the two models; and
 - Overall cash flows are materially aligned, closing AMP7 with a difference in cash of £6m (£4m due to the Retail margin on DPC noted above, £2m due to other effects, including working capital), corresponding to a gearing difference of less than 0.05%.
- 8.78 On the basis of this, we consider that the internal Thames Water financial model is materially aligned to the Ofwat PR19 financial model, and is therefore fit for purpose for using the model to assess actual financeability.
- 8.79 As a corollary, the comparison between the two models provides an additional cross-check both over the population of input data to the Ofwat PR19 financial model, and over the mechanics implicit within the Ofwat PR19 financial model.