DT

Data Table Commentaries

BRISTOL WATER

Contents

F_Inputs Tab

Change 1
The F_inputs tab of the data tables has been updated to enter the K Factor and WACC as set by the CMA in its redetermination. This required amendments to the inputs in Row 16, Row 66 and Row 69.

Change 2
It was necessary to update rows 74 and 75 of the F-Inputs tab to reflect our restated APR table 2I. The changes made were:

Row	Description	Current Value	Revised Value
74	Wholesale charge - water Measured - Household	22.477	27.216
75	Wholesale charge - water Measured - Non-household	23.345	22.477

This change provides the wholesale revenue values for table WS13, which are used in our WRFIM calculation.

App1 - Performance Commitments and ODIs

Table App1 collates the performance commitment details, committed performance level and associated incentive rate information.

There are no considerations given to reconciliations and validations with other tables.
The commentary provided in this document has been purposely written at a high level, due to the complexities of the table; the business plan section C3 'Delivering Outcomes for Customer' provides a more detailed analysis of the inputs and outputs of this data table.
The contents of the Table App1 are outlined in the table below. Where this can be sourced in the business plan section C3 is also included.

Table App 1 content	Columns	Further information in Business plan section C3
Performance commitment details	G-H	Part 5 'detailed evidence by performance commitment'
Price control allocation	I-Q	Part 3 'developing our performance commitments'
ODI type, form and timing	R-T, DC-DE	Part 4 'developing our outcome delivery incentives (ODIs)'
Performance commitment categorisation, unit and description	U-Z, BL-BP	Part 5 'detailed evidence by performance commitment'
PC cost factors and overlap with other programmes/categorisations e.g. NEP, asset health	AA-AE	Part 5 'detailed evidence by performance commitment'
Customer relative priority	AF	Part 3 'developing our performance commitments'
Performance commitment levels – past and future	AG-BK	Part 5 'detailed evidence by performance commitment'
Collars, caps and deadbands	BQ-CT	Part 5 'detailed evidence by performance commitment'
Underperformance incentive rates	CU-CX	Part 5 'detailed evidence by performance commitment'
Outperformance incentive rates	CY-DB	Part 5 'detailed evidence by performance commitment'
Maximum underperformance penalties	DF-DQ	Part 5 'detailed evidence by performance commitment'
Maximum outperformance payments	DR-EC	Part 5 'detailed evidence by performance commitment'
P10 underperformance penalties	ED-EI	Part 5 'detailed evidence by performance commitment'
P90 outperformance payments	EJ-EO	Part 5 'detailed evidence by performance commitment'
Household marginal costs and benefits	EP-EZ	Part 4 'developing our outcome delivery incentives (ODIs)' and Part 5 'detailed evidence by performance commitment'

Performance commitment details
The source of these performance commitments is the early submission information we submitted to Ofwat on 3rd May 2018. Some of the bespoke PCs have been amended following the feedback we received from Ofwat on 13th July 2018.

Common PCs applicable to water-only companies have been adopted and Ofwat's mandatory categories that our bespoke PCs must cover have also been included.

Price control allocation
Other than C-MeX, D-MeX and AIM (which Ofwat provided specific guidance for in its app1 guidance) the allocations proposed are our proposals as set out in C3.

ODI type, form and timing
The source of this ODI information is the early submission information we submitted to Ofwat on 3rd May 2018.

Performance commitment categorisation, unit and description
The information proposed has been determined using the judgement of the most appropriate category.

All performance commitments will be measured on an annual basis.

PC cost factors and overlap with other programmes/categorisations e.g. NEP, asset health
The information proposed has been determined using the most appropriate category.

We have not identified any performance commitment as being scheme specific or related to a special cost factor. In all cases our performance commitments, even if they include specific schemes, relate to an outcome as the particular investment locations and timing could vary. Ofwat introduced scheme-specific performance commitments at PR14 to protect customers from the non-delivery of major schemes for which companies had received additional allowed totex due to a successful special cost factor claim. None of our PR19 performance commitments match this criterion. Ofwat has also said that for PR19 we may accompany our applications for special cost factor claims with our proposed approach to protect customers in the event of delay or non-delivery of the performance commitment subject to the special factor cost claim. None of our PR19 performance commitments match this criterion.

For asset health we flag "part" for CRI, taste and odour. There are asset health elements, but also non-asset health elements and drivers to the outcome. A similar approach is taken to the NEP flag where for Bioresources and raw water quality, NEP schemes contribute to the performance target, but rewards and penalties also incentivise other non-NEP activities.

Customer relative priority
The relative priority proposed for each PC are our judgements based on research evidence set out in C3, but the ranking has been discussed with the Bristol Water Challenge Panel.

Performance commitment levels – past and future

Where applicable, past performance levels have been sourced from previously published APRs. This information has been audited by our technical assurers, Atkins. Others (such as CRI) are based on shadow reported information that has not been published, but has been submitted to a regulator. Others (such as Unplanned Outage) have backcast data that has been determined by the relevant expert team at Bristol Water. These numbers have not been audited, and are provided for information as a historic data trend as this influences our expert judgement on future targets, as described in A1 and C3.

Performance commitment levels for leakage and PCC are presented, for consistency with the other PCs, on the assumption that there are annual reductions. However the C3 appendix explains that we will adopt Ofwat's preferred approach (using three year averaging) once actual data is known. This is for clarity, as we make the incentive calculations based on 3 year averages.

The basis for the forecasts for the future performance commitment levels have been derived from our published document on our long-term ambitions, Bristol Water …Clearly. Where subsequent consultation has resulted in updated targets, we make this clear in C3.

Collars, caps and deadbands

Caps, collars and deabdands have been applied to all applicable incentives within App1. Justification for their inclusion is in C3.

No enhanced outperformance caps or underperformance collars have been adopted.

Underperformance incentive rates

For the majority of our performance commitments we have followed the Ofwat formula. We have not followed the standard formula for four PCs:

- Void properties
- Waste Disposal Compliance
- WINEP
- AIM (as our AIM site is non-standard, we show the incentive calculations within App1, noting the guidance suggested otherwise).

The detailed incentive calculations are shown in Appendix 4 of C1.

Outperformance incentive rates

The standard outperformance formula has been applied to all but one of the outperformance rates. The one exception is void properties.

Three PCs (supply interruptions, water quality (appearance) contacts and water quality (taste/odour) contacts are the only PCs to include a second standard outperformance payment.

Standard ODI operand

We use a factor of .001 (per 1000) for population at risk of asset failure and AIM.

Maximum underperformance penalties

These are automatic calculations in the app1 data table.

Maximum outperformance payments
These are automatic calculations in the app1 data table.

For three PCs (supply interruptions, water quality (appearance) contacts and water quality (taste/odour) we have amended the standard formula, in recognition of the use of a second standard outperformance payment. The formula shows the tiered rates for each case as:

- Supply interruptions – 1.5 minutes
- Water quality appearance – 0.32 per 1,000 population
- Water quality taste and smell – 0.14 per 1,000 population

P10 underperformance penalties
Table App1 requires that the value of the incentive payments outside of the 10% probability (P10) and 90% probability (P90) positions to be assessed. We set out the rationale for the 10% and 90% probability ranges in C3.

P90 outperformance payments
Table App1 requires that the value of the incentive payments outside of the 10% probability (P10) and 90% probability (P90) positions to be assessed. We set out the rationale for the 10% and 90% probability ranges in C3.

Household marginal costs and benefits
Units for these values take into account household WTP values, following Ofwat query 617. The calculations are shown in Appendix 4 of C3. The valuation methods text is explained for each ODI in C3. WTP (triangulation) reflects the NERA survey which tested different bill levels and service packages based on the range of customer WTP in order to validate expert judgement triangulation from the wide range of studies and sources of evidence considered. The full range of research is referenced in C1 and C3.

The median reflects the calculated survey triangulation, with the Mean, Lower and Upper WTP values reflecting the source triangulated data.

App2 - Leakage additional information and old definition reporting

The table consist of the following sections:
A. Leakage: new definition reporting by Region
B. PR14 measurement of leakage: old definition reporting
C. Per Capita Consumption (old definition)
D. PR14 measurement of supply interruptions (old definition)

In regards to Section A. The upper and lower bounds of the SELL assessment reflect the reliability of data, key uncertainties and assumptions used to calculate the SELL. The leakage targets are set out in the Water Resource Management Plan and are consistent with line 40FP in the FP Demand tab of the WRMP data tables.

Individual lines in Section B, C and D are also reported in the Annual Periodic Return (APR) Table 3A Outcome Performance. Extensive documentation covering the APR process and specifically the data lines reported in this table are available in the relevant Regulatory Affairs Sharepoint site.

As Bristol Water operates one region for Water Resource Management, Leakage for the Whole Company is reported in Line 1-7 (new definition) and Line 29-31 (old definition). Lines 8-28 and Lines 32-40 therefore do not apply to Bristol Water, nor Line 43 (Internal Sewer flooding incidents), and are not populated.

This table is dependant on Table WN2 Line 1 Total length of potable mains (for AMP6 /AMP7) and the WRMP/WS3 for Total Properties- longer Term projections.

Past performance 2015/16, 2016/17 and 2017-18

Performance reporting
Direct copy from externally-assured APR tables. A number of lines are also reported in the Annual Periodic Return (APR – 2018 submission) Table 3A Outcome Performance and Table 3S Shadow Reporting.

The shadow reported figures for leakage are used to populate **Line 6 and 7 for 2016/17 and 2017/18**. For forward projections, we cannot based on the trends to date identify whether shadow reporting will be higher or lower than our current metric. For leakage and per capita consumption we assume in line with our current leakage calculation, but look to reset targets once the trend has been established.

For **Line 30 Leakage** the AMP performance to date is the “Actual Current Leakage post-technical changes” as reported in Bristol Water plc Annual Performance Report 2018 and APR table 4P.

For **Line 41 Per Capita Consumption** the AMP performance to date is the “Actual Current Per Capita Consumption after leakage technical changes” as reported in Bristol Water plc Annual Performance Report 2018.

For **Line 42 Supply Interruptions,** the AMP performance to date is the ”Customer Minutes Lost > 3hrs”. This performance is reported as part of the annual Discover Water submission and uses the

same base data used to report on the Supply Interruptions Performance Commitment which for Bristol Water is defined by calculating Unplanned Customer Minutes Lost.

All line entries from the APR have been assured by Atkins as part of the Annual Periodic Review (APR).

The cross-check for these lines is for the table owner to verify that the figures have been correctly copied.
The confidence grade for these lines is as reported in the APR methodology.

AMP6 forecasts (2018-19 and 2019-20)

For **Line 42 for supply interruptions;** the forecast has been determined through the PR14 process and is linked to the AMP6 Performance Commitments of Unplanned Customer Minutes Lost.

WRMP:
The Central Point of the sustainable economic level of leakage (SELL) for the old definition reporting is from the externally-assured Water Resources Management Plan tables. The forecast for Years 4-5 of AMP6 are the Performance Commitment targets set as part of the PR14 Business Plan submission. This covers Leakage **(Line 30 and Line 5)** and Per Capita Consumption **(Line 41)**

These lines are checked by the table owner to ensure that they are copied correctly.

The Confidence Grades for these figures is A2. The data is based on robust records and analysis through the WRMP and APR submissions and are considered to be best method of assessment.

AMP7 forecasts (2020 – 2025 and Longer-Term projections up to 2044/45)

For **Line 42 for supply interruptions;** the forecast has been determined through the PR19 process and is linked to the AMP7 Performance Commitments of reducing Customer Minutes Lost.

WRMP:
For Line 30 Leakage and Line 41 Per Capita Consumption, AMP7 forecast has been determined through the WRMP and is linked to the AMP7 Performance Commitment of reducing the PCC by 2024-25.

The Confidence Grades for these figures is A2. The data is based on robust records and analysis through the WRMP and APR submissions and are considered to be best method of assessment.

Bristol Water commissioned RPS group to undertake a new assessment of the sustainable economic level of leakage (SELL) in readiness for the 2018 WRMP and PR19. The Water Act 2003 introduced statutory provisions for water companies in England and Wales to produce Water Resources Management Plans (WRMPs). These plans demonstrate how companies will maintain the balance between supply and demand over a 25-year planning period. The plans are used by the Environment Agency (EA) and Ofwat to ensure that customers' needs are being met in an economically and environmentally sustainable way and in order to assess impacts on pricing. There is also a regulatory

requirement for every water company to provide an assessment of its sustainable economic level of leakage (SELL). These are required to inform companies' WRMPs as part of the business planning process and to provide leakage targets for operational leakage management.

The outcome of the SELL analysis is a new Central Point of the SELL as reported in Line 3 from 2020/21 onwards. The Confidence Grades for these figures is A2. The data is based on robust records and analysis through the work undertaken by RPS, which follows best practice SELL assessments and modelling.

As part of the WRMP assessment Leakage targets were set for AMP 7 and longer term projections up to 2044/45. These new targets provide the entry for Line 5, and converted to Leakage/Property/Day (Line 6) and Leakage/km/day (Line 7). The property numbers and mains length are taken from Table WS3 and Table WN2.

The Confidence Grades for these figures is A2. The data is based on robust records and analysis through the WRMP which is considered to be best method of assessment.

RPS group also undertook further work which accompanies the broader SELL technical report, outlining the sensitivity of the SELL with respect to key components in the calculation; such as the marginal cost of water, background leakage, natural rates of rise in leakage and active leakage control costs.

The outcome of this sensitivity analysis has been used to determine the Upper **(Line 2**) and Lower **(Line 4)** limit of the SELL.

The Confidence Grades for these figures is B3. Although the data is based on sound records there is a degree of extrapolation of the results.

App3 - Abstraction Incentive Mechanism (AIM) for PR19

- What does this information tell us

Ofwat's Abstraction Incentive Mechanism (AIM) is one of a series of regulatory incentives for water companies. AIM seeks to incentivise water companies to reduce abstraction (where feasible) at sources when water is scarce and where there is customer concern as to the impact of the abstraction during dry weather on surface water features (e.g. low flows in rivers or dry river beds, low water levels in wetlands or lakes, etc.). Importantly, AIM is focused on customer concerns around the impact of abstraction on the water environment rather than WINEP regulatory drivers such as Water Framework Directive.

Table App3 captures any AIM schemes that the company proposes. Bristol Water was initially identified as not being required to report under AIM criteria set out in the Ofwat AIM guidance (2016) but has identified a scheme that meets the criteria and principles of AIM and will report against this approach in Table App3 although it is to be noted that this is not a formal AIM site but rather an AIM-style commitment.

The proposal is to introduce in AMP7 an abstraction management commitment in relation to the effects of the company's groundwater abstractions at Tetbury, Shipton Moyne and Long Newnton on river flows in the Malmesbury Avon.

- What events have occurred within operations/BAU and how has this impacted on and been addressed or captured within the data.

Bristol Water has in early 2018 entered into an agreement with Wessex Water on measures to protect rivers that are impacted by Wessex Water abstractions in the Malmesbury area. Our new AIM-style commitment provides an opportunity to create environmental benefit additional to the existing formal cross-border commitment with Wessex Water, by taking up additional opportunities to reduce abstraction that could potentially have an impact on the environment.

- Any specific requests from Ofwat (as defined within Ofwat data table guidance)

Ofwat has requested that all companies report against AIM although Bristol Water was identified in the original 2016 guidance as not being required to report against this measure.

- Describe the basis for forecasts, referencing business cases and company strategy.

Data will be reported using Bristol Water's regulatory reporting data on abstraction from three sites, which are for licensing purposes grouped together as the "Shipton Moyne Group". Forecasts for abstraction changes are based on historic site records as returned through Bristol's telemetry systems, monitored and recorded through the monitoring package "Hydrolog". The 90m AOD level at Didmarton borehole is used as the trigger for identification of an "AIM year" as this level is the 1 April trigger for abstraction reduction under the existing formal legal agreement with Wessex Water.

- Any material risks to the accuracy of the data and how these have or will be mitigated, including any investment proposals.

This is a new measure for Bristol Water and data systems have not yet been formalised for reporting of borehole levels at Didmarton although these data are available through EA systems. Information will be obtained from EA in March of each reporting year to identify the risk and likelihood of an AIM year.

- Linkage to PR19 themes of Affordability, Resilience, Customer Service, Innovation

Customer preference, willingness to pay and potential customer benefits regarding this issue are low due to the small environmental impact potentially attributable to Bristol's abstraction at this group of sites and the uncertainty associated with the benefit that will be derived from reduced abstraction at the sites during period of dry weather.

Due to low willingness to pay and low certainty of benefits, the penalty and reward mechanism to be implemented for this measure is based on the marginal cost of water from the alternative site (Purton treatment works) with a minor uplift in this value from £35/Ml to £50/Ml to reflect the potential environmental and river flow benefit associated with reduction in abstraction from these sites. This level of penalty and reward has been discussed with the local EA abstraction teams and agreed to be proportionate to the level of environmental risk and benefit associated with this AIM-style commitment.

App4 - OFWAT request for common metrics not recorded elsewhere

Numbers quoted within the table relate to year end numbers i.e. 31st March of the year annotated

Line 1 – **Historic data;** Data is transposed from CCWater's annual research report (question 3). We note that underlying performance has been broadly flat since 2014 @c73% and that the result in the 2016 survey, as it did for all other questions in that year, was at odds with trending performance. We are unable to establish the factors that created this swing in performance between 2016 and 2018, though one hypothesis is that the year of the drop in performance was the first year of bill increase following a significant drop in the prior year.
Forecasted data; Weighted average from prior period used to populate 2018-19, then incremental improvement year on year of 2% until 2022 then 1% year on year improvement based on planned interventions – this assumes a bill profile that creates early reduction in bill in real terms when compared to 2019-20. Key actions:

- Improving customer segmentation & analytics capability to support those most in need
- Simplification of bill
- Extend customer reach through improved social media
- Improved meter adoption from 66% to 75%, as detailed in a draft business plan
- Water efficiency activity
    - Create and build new partnerships – Debt advice centres in Bristol being one such example
    - Targeted approach building on segmentation work

In the event we note anomalies from the trending position in future we will investigate to establish the root cause of the fluctuation.

Line 2 – Not applicable

Line 3 – **Historic data**; Data is transposed from CCWater's annual research report (question 4) and the survey outcomes are in line with those commented upon in line 1.
Forecasted data; Weighted average from prior period used to populate 2018-19, then incremental improvement year on year of 2% until 2022 then 1% year on year improvement based on planned interventions this assumes a bill profile that creates early reduction in bill in real terms when compared to 2019-20 and assumes stable waste water bills during the AMP from Wessex Water. Key actions as per line 1.

Line 4- **Historic data**; Data is transposed from CCWater's annual research report (question 5) and the survey outcomes are in line with those commented upon in line 1.
Forecasted data; Weighted average from prior period used to populate 2018-19, then incremental improvement year on year of 3% until 2022 as we expect interventions to create early momentum which tapers to 2% thereafter based on planned interventions. Key actions as per line 1.

Line 5 - Not applicable

Line 6 – **Historic data**; Data is transposed from a joint "Willingness to Pay" survey conducted with Wessex Water by Accent in October 2017. This was the first year that such a survey had taken place and therefore no historic data is available.
Forecasted data; incremental improvement year on year of 2% until 2025 based on planned interventions. Key actions as per line 1.

Line 7 & 8 – Our consideration of the costs and benefits takes into account the guidance published by DEFRA on social tariffs in 2012:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69564/pb13787-social-tariffs-guidance.pdf
This guidance (section 2.3) states that Social tariffs have the potential to deliver a wide range of benefits to undertakers and their customers, including:
• assisting low income households who would otherwise struggle to pay their bills in full;
• helping to prevent new cases of bad debt arising as a consequence of non-payment of water bills that may be unaffordable, and helping to resolve the existing problem of bad debt;
• enabling undertakers to design support schemes that are explicitly tailored to address local affordability problems and local affordability risks;
• protecting unmetered low income households from unaffordable bills that may arise in areas with high levels of optant metering;
• protecting low income households from unaffordable bills where an undertaker that has been designated an area of serious water stress has chosen to bring forward universal metering to help ensure a supply-demand balance; and
• providing reputational and financial benefits to the undertaker through improved customer service and by placing a greater focus on the needs and views of customers.

For reporting these lines we have considered the following benefits:

- Our social tariff schemes – Assist, Pension Credit, Water Sure and Water Sure plus
- Water saving devices and information provided to all customers
- Our debt assistance scheme Restart
- Customers' valuation of the benefits provided by our social tariff schemes

The calculation is set out below- based on our methodology statement relating to App 4.

Social Tariffs

Assist
The Assist tariff provides a discounted bill to customers with affordability issues. This is means tested through referral to Citizens Advice or a Debt Advisory body. Further details of the acceptance criteria are provided within our Charges Schedule. There are six tariff levels operating within Assist. The discounts are cross-subsidised by other customers, in line with social tariff guidance. The tariffs in 2017/18 are set out in Table 1:

Table 1- Assist tariffs 2017/18

Assist Level	Tariff	Discount against Average Bill
0	£21	88%
1	£46	74%
2	£78	56%
3	£110	38%
4	£141	20%
5	£143	19%

To monitor the extent to which Assist supports customers and increases revenue we receive a monthly "BW Assist Success Report", provided by Pelican. In 2001, we created Bristol Wessex Billing Services Limited (BWBSL), a joint venture company with Wessex Water to manage the majority of our retailing activities. Pelican Business Services (the trading name for BWBSL since 2015) manage our metering, billing and collection operations and serve as a point-of-contact for all non-operational customer enquiries.

The report BW Assist Success Report is generated each month from Rapid, and circulated by the Management Information System. This report provides details of income received for each customer on our Assist social tariff, showing the amount paid in the year before they were on Assist (year -1) and the year they joined Assist (year 0). Payments in subsequent years are shown in the fields Year +1, Year +2 etc.

To provide an estimate of the benefits from Assist, we have calculated the total amount paid by the customers on Assist at 31st March 2018, or those who were on the tariff at some point during 2017/18 before either returning to standard tariffs as they no longer met the eligibility criteria for Assist, or leaving our supply area and ceasing to be our customers. This shows the total amount paid in "year 0" to be £455,771, compared to £368,098 in the year before joining Assist.

Table 2 - Payments by Assist customers prior to and having joined Assist

	No. customers	Paid year before Assist	Paid first year on Assist	Increase
On tariff at 31/3/18	7,121	£325,884	£403,390	£77,506
Left during 17/18	781	£42,214	£52,381	£10,167
Total	7,902	£368,098	£455,771	£87,673

We therefore calculate that the net benefit from our Assist tariff for 17/18 was £87,673, in that Assist customers in total are assumed to have paid that much more than they would have done if they were not on Assist. This translates to an average benefit of £11.10 per customer. This is then multiplied by the number of customers on Assist in 17/18 who are not also on our debt support programme Restart (as those benefits are separately calculated below), which is 5,110, producing a benefit of £56,696.

Our 2017/18 tariff calculations assumed a cross subsidy of £208k for Assist. This is treated as a cost, to the customers providing the support. Recognising that this figure is also a benefit to the customers supported this figure is also added to the benefit line.

Pension Credit

From 1st April 2016 we introduced a social tariff for customers on Pension Credit. This tariff offers a 20% discount on the standard bills payable. This discount is cross subsidised by other customers, in line with social tariff guidance. Further details of the eligibility criteria are provided within our Charges Scheme.

Equivalent data to our Assist success report is not available for our other social tariff, Pension Credit. We have therefore assumed the benefit of this tariff to be nil, in that customers on average pay no more or less than they would have done if not on the tariff. This reflects the uniform 20% discount offered through the tariff, but that the affordability issues for customers on it are not as significant. Customers on Pension Credit in need of greater assistance are transferred to Assist. The cost of this tariff is calculated as a 20% discount on the average bill, multiplied by the number of customers on the Pension Credit tariff in 2017/18. The benefit for this tariff is therefore assumed to be equal to the cost, as per our assumption that the net benefit is nil.

The data we have does not identify any Pension Credit customers as also being on Restart. This is consistent with Pension Credit customers requiring less financial support than those on the most discounted Assist tariffs.
Our tariff calculations for 2017/18 assumed a cross subsidy of £89,000 to support the Pension Credit tariff. This value is entered as a cost (to the customers providing the subsidy) and a benefit (to the company through increased revenue).

WaterSure+

WaterSure is a national scheme to support customers in receipt of government benefits with large families (3 or more children) or with certain medical conditions. Further details of the eligibility criteria are provided within our Charges Scheme. The national scheme caps customers' bills at the level of the average bill. As an enhancement of this scheme, Bristol Water offers 'WaterSure+' which applies the same eligibility criteria but caps the tariff at the level of the measured average bill, reflecting that this tariff is only available to metered customers, as it is intended to provide support for those customers with a need for higher water usage. WaterSure (and WaterSure+) operate as social tariffs in that the discounts are subsidised by other customers.
The data we have does not identify any WaterSure customers as also being on Restart. This is consistent with WaterSure customers requiring less financial support than those on the most discounted Assist tariffs.
To calculate the costs and benefits of the WaterSure+ tariff in 2017/18 we used data provided by Pelican on the amount billed to WaterSure+ customers and the amount that those customers would have been billed if they were on standard charges.

Table 3 - Calculation of costs and benefits of WaterSure+

Standard Rates (a)	£559,627
Billed Amount (b)	£314,948
Saving on Standard Rates (a-b)	£244,679

The saving on standard rates figure is treated as a cost as this is cross subsidised by other customers. This figure is also treated as a benefit through the additional income received.

Water Saving

We provide water saving devices to our customers, which may be ordered via the www.savewatersavemoney.co.uk website. The costs of these are borne by Bristol Water, and we are invoiced for the cost of the devices distributed. The benefits are to customers through reduced water and heating bills following installation of the devices. We have included the costs and benefits from these devices within our calculation of lines 7 and 8.
The data on cost and delivery of devices is provided to us by SaveWaterSaveMoney, who provide details of each type of device, the number distributed and the cost:

Table 4 - Number and cost of water saving devices distributed 2017/18

Device	No. distributed 17/18	Cost	Total Cost
Tap Inserts	1583	£1.86	£2,944.38
Shower Regulator	1081	£1.89	£2,043.09
Shower Timer	2499	£0.68	£1,699.32
Save a Flush	1900	£0.90	£1,710.00
Swell Gel	1947	£0.28	£545.16
Flush Stickers	774	£0.49	£379.26
Toothy Timer	1979	£0.83	£1,642.57
Shower Head	742	£4.95	£3,672.90
Gunk Pot	397		£0.00
Bath Buoy	199	£4.25	£845.75
Leaky Loo	430	£0.49	£210.70
Flow Saver	239		£0.00
Hose Gun	548	£20.83	£11,414.84
Water Bottle	85		£0.00
Total	4672		£27,107.97

The costs and benefits data were all supplied to us by the provider – SaveWaterSaveMoney. Where we have included these this is from a scheme whereby the kit is supplied to the customer at no cost to themselves, and we pay cost price to the provider. Where the customer buys the kit directly from SaveWaterSaveMoney, that is not included within our data here.
Save Water /Save Money provides an estimate of the annual savings to customers from installation of each device, based on the saving in drinking water and costs of heating water for showers.
The annual savings estimated are:

Table 5 - Estimated benefits from water saving devices

Device	Annual Saving £
Shower Regulator	£41.88
Shower Timer	£6.98
Toothy Timer	£13.55
Tap Inserts	£48.23
Save a Flush	£13.55
SwellGel	£0.53

In addition to these savings, we also estimate that shower heads produce a saving of £4.95 per customer. Other devices are not assumed to produce a saving.
These savings are applied to the number of devices distributed in 17/18 in order to calculate the benefits.

Table 6 - Calculation of benefits from water saving devices

Device	No. distributed	Saving per device	Total Saving
Tap Inserts	1583	£48.23	£76,348.09
Shower Regulator	1081	£41.88	£45,272.28
Shower Timer	2499	£6.98	£17,443.02
Save a Flush	1900	£13.55	£25,745.00
Swell Gel	1947	£0.53	£1,031.91
Toothy Timer	1979	£13.55	£26,815.45
Shower Head	742	£4.95	£3,672.90
Total	4672		£196,328.65

Restart

Our Restart scheme is intended to support customers with existing debt issues, by writing off a proportion of the bill in exchange for the customer entering into a regular payment arrangement to clear the arrears. Customers on Restart may also be on one of our social tariffs to provide discounted tariffs and avoid future debt issues. Our calculations identify the number of customers who are on both Assist and Restart, and exclude these from the calculated costs and benefits of Assist. This calculation assumes no Restart customers are on WaterSure or Pension Credit, as these apply to customers with less acute affordability issues.

The cost of debt written off for Restart customers is provided from Pelican as £265,203 for 2017/18. This is shown as a cost.

To calculate the benefits from Restart we use a figure of £523,992 provided by Pelican, which is the total revenue received from customers on Restart during 2017/18. The benefit to us is through improved cash-flow in recovering this revenue from customers in the year rather than in future years through revenue correction. To account for this cash-flow benefit we apply the wholesale cost of capital of 3.67% as set by the CMA in its redetermination of our PR14 price limits in 2015.

The benefit included within line 7 is calculated as £523,992 x 3.67% = £19,231

Funding of CAB and Debt Advice

We provide an annual donation to a number of organisations who support customers with affordability and debt issues. This funding is provided in co-ordination with Wessex Water, in line with our joint billing arrangement as the organisations support customers of both companies.

In 2017/18 we supported 19 organisations to a total of £126,959. Through agreement with Wessex Water our contribution to this was limited to £100k, with the remainder paid by Wessex. This is included as a cost in line 8.

In order to calculate the benefits of providing this advice we have used the figures calculated by the Stepchange debt advice charity in its report on the value of their work.[1] This report calculates total benefits of £195.8m, in return for the charity funding of £33.6m. We deducted from the benefits a figure of £21.1m identified as value transfer. This calculates a rate of 5.2x benefits to costs. Using this ratio of 5.2x we have estimated the benefits of our support of CAB and debt advice centres including Stepchange to be £520k.

[1] https://www.stepchange.org/Portals/0/documents/media/reports/Transforming_lives_exec.pdf

The benefits StepChange considered in its analysis to calculate the figure of £195.8m are set out in the table below. These benefits can impact the customers supported, but also represent wider benefits to the state, creditors and wider society:

Table 7 - Calculated benefits of debt support by category

Category of benefit	Value
Employment	£35,459,727
Mental health	£8,190,038
Creditor recovery	£80,435,546
Desperation crime	£39,268
Debt recycling	£4,200,215
Children taken into care	£1,940,953
Housing	£42,184,641
Relationships	£4,209,886
Small business	£9,682,331
Care home	£7,339,525
Disengaged children	£1,936,798
Physical health	£211,675
Total gains	**£195,830,603**

Pelican Costs

We include within line 8 the costs associated with supporting and managing our social tariff and affordability programmes. This is based on cost data provided by Pelican. Bristol Water pays a share of Pelican operating cost set in line with the proportion of revenue recovered between Bristol Water and Wessex Water, which for 2017/18 was 19.85%. As Pelican provides billing services to household customers, this is based on household retail revenues.

The costs included are:

- the social policy team which handles affordability and social tariffs – 100% of the costs
- the customer service call centre – 5% of costs
- the external liaison team which carries out customer visits including to vulnerable customers – 10% of costs

These costs include staff costs and overheads including a share of office running costs. The allocations are based on Pelican management estimate of the proportion of time spent on supporting vulnerable customers. Overall costs are shared between Bristol Water and Wessex Water based on revenue with Bristol taking 19.85% of costs.

Table 8 - Pelican costs of affordability support 2017/18

Cost centre	Total Costs	Allocation to vulnerable customers	Vulnerable customer cost	BW share @ 19.85%
Call Centre	£1,863,697	5%	£93,185	£18,497
Social Policy	£494,831	100%	£494,831	£98,224
External Liaison	£479,354	10%	£47,935	£9,515
Total	£2,837,883		£635,952	£126,326

We recognise there are other costs which could be included within this calculation, for example those involved in tariff calculation and policy setting, however these are not considered to be material and estimated at less than 5% of the Pelican costs figure.
The figure of £126,326 is included as a cost in line 8.

Non-use value Benefits of Social Tariffs

Non-use economic value is the value that people assign to economic goods that they may not use themselves. This includes altruistic values, where customers may value the benefit of our provision of support to vulnerable customers rather than themselves. This also includes option values, where customers may not require the support at present, but value its existence in the event that they may require it in future.
To value the non-use altruistic and option value benefits we have used the value which customers state as the amount they are willing to pay to support vulnerable customers.
In 2015 we undertook customer research in order to understand customers' willingness to support the Pension Credit social tariff. Through this research it was clear to respondents that the support represented an increase on their own bills to support others. This research obtained a value of £1.31, which is taken as the valuation of support for all social tariffs rather than just Pension Credit (and therefore may be a conservative estimate). We have applied RPI inflation (as this is the multiplier for regulated revenue in 2015-20) to this figure from 2015/16 to 2017/18, which provides a figure of £1.35. This is multiplied by the number of household customers, excluding those currently supported, in order to calculate the societal benefit of our social tariffs:

Table 9 - Calculation of Non-use value of social tariffs

Customer valuation (a)	£1.35
No. Customers (b)	476,248
Benefit (a x b)	£644,300

Total Costs and Benefits

From the above information, the following costs and benefits have been calculated:

Table 10 - Calculation of Total Costs and Benefits 2017/18

	App4 Line 8 Cost	App4 Line 7 Benefit
Assist (incremental benefit)		56,696
Assist subsidy	208,000	208,000
Pension Credit	89,000	89,000
WaterSure+	244,679	244,679
Water Saving	27,108	196,329
Restart	265,203	19,231
Customer WTP – non-use value		644,300
CAB funding	100,000	520,012
Pelican costs	126,236	
total £	1,060,226	1,978,246
total £m	1.060	1.978

Line 9 – **Historic data**; Data is transposed from CCWater's annual research report (question 12) and we note the decline since 2013 with some small improvement latterly. This contradicts the significantly increased numbers taking advantage of our affordable tariffs and whilst we recognise there is some work to do, the survey outcome is somewhat limited in its efficacy by its sample size. Further we have been unable to attribute any obvious rationale for such a decline. Forecast data; Weighted average from prior period used to populate 2018-19; incremental improvement until end of current AMP. From 2020 we expect "stepped" progress as we begin to leverage new technologies, new billing system and social media channels, with an expectation improvement slows following initial impetus. We recognise that not all customers will recall what's on the bill other than charges though our ambition is that we outperform current best in class performance, 7%, by 2022. Actions are detailed in line 12 commentary. Further we anticipate increasing the sample size, subject to agreement with CCWater.

Line 10 – **Historic data**; the % in debt agreeing to repayment plans has, broadly, remained flat in the preceding 5 years noting a reduction in 2017/18 as result of challenges in workflow activity. In attaining the percentage of customers in debt (and repaying) we made the following assumptions recognising that customers will often have debt but not be in arrears (e.g. unmeasured customers are billed in advance though a high proportion of customers will pay by direct debit over 10 months and so the debt will remain for much of the year but they are not in arrears in terms of agreed repayment).

To reach the number we have only included those that reach our debt collection triggers and with a debt greater than 30 days considered to be in arrears and where they were not excluded as detailed above.

Forecast data; we expect performance to remain consistent (excluding 2017/18) as we move forward though this should not bely the effort required to do so given the significant macro-

economic challenges and uncertainty over the next 5-10 years, including the advancement of universal credit. .

Line 11 – **Historic data;** Customers who have a repayment plan and who are continuing to pay has deteriorated in the prior two years. This has been driven, in the main, by the introduction of universal credit, though we recognise that some administrative backlogs (affecting reporting only) have impacted the outcome; backlogs have now been addressed. We have assumed that any customer who has made a payment within the past 65 days was considered to be 'still paying'. We considered this to be reasonable to ensure payments made by the DWP (which can be sporadic) were counted.

Forecast data; Significant macro-economic changes, BREXIT and roll out of universal credit, make this measure more difficult to predict, in particular the continued rollout of Universal Credit which will adversely impact the metric. The roll out of our new billing system may also have an impact though until a thorough impact assessment is completed, prior to procurement, it is difficult to assess.

Up until 2021/22 it has been assumed that the rate will stay flat at 72.0% which is lower than a number of recent years but higher than 2017/18. This recognises the adverse impact that the continued rollout of Universal Credit will have but also that the 2017/18 position was lower than it would normally have been due to workload pressures following the separation of HH/NHH customers.

Universal Credit is due to be fully rolled out by March 2022. As more customers are migrated, it will put pressure on this metric (and row 10), without intervention we anticipate the DWP payment channel will become increasingly less effective. We have challenged ourselves to unlock new opportunities during this period to offset the challenge of the Universal Billing rollout, with the metric being forecast as flat. Beyond March 2022, it has been assumed that a 1.0% pa improvement can be achieved.

Line 12 - **Historic data**; Data is transposed from CCWater's annual research report (question 13). Our performance follows an increasing trend over the last 7 years and current year performance remains significantly above industry average.

Forecast data; Weighted average from prior period used to populate 2018-19, then incremental improvement year on year of 3% until 2021 followed by 2% improvement until end of AMP. Key actions:

- Drive awareness of support available Apr 2018 - Mar 2020 Programme of continual awareness generation for support available through activities generated by our joint working group with Wessex Water and others (see list below)
- New ways to proactively target customers in vulnerable circumstances - Continuous programme of targeted support for customers in vulnerable situations, including attendance and hosting targeted events, production of joint literature with appropriate associations some of which are listed below.
- Develop and enhance third party relationships
    - Debt Advice agencies
    - CAB
    - Social Housing associations
    - Bristol MIND
    - RNIB

- Mayor's Office
- MP events
- Other help groups

- Engage developers to support identification of vulnerable customers ensuring that the availability of our services for vulnerable customers, financial and otherwise, is included in developer welcome literature.
- Data share (in & out) – subject to data protection law
  - Other utilities
  - Local authorities
  - GP's
  - Appropriate charitable organisations
- On going internal training for all customer facing staff (including contractors) on identifying customers in vulnerable circumstances and how we can support them

Line 13 – **Historic data**; number of customers registered for a priority service noting than on average each customer is registered for **1.67** services**.**
Forecast data; sum of the services projected in lines 15-19 inclusive based on key activities detailed in Line 12 commentary. There is no specific research available to identify those in the Bristol Water area who would benefit from being on our priority services register. The Citizens Advise Bureau (CAB) suggest that 9 million of the 27.2 million households in the UK could benefit by being on a priority services register which points to an opportunity to significantly increase our current numbers. This is reflected in our ambition increasing our numbers from the current 4,018 to 14,300 by 2025 and supported by our actions detailed in Line 12

Line 14 - calculation of number services which are subscribed on the register divided by household population within the Bristol Water area.

Line 15 - **Historic data**; our numbers have grown, on average, 7% year on year in the preceding 5 years.
Forecast data; Average of prior 5 years year on year growth, in real terms expressed as a percentage (7%), is used to calculate the base line growth and then an additional increment of 20% is applied in year 1 of next AMP, followed by an additional increment of 10% in year 2 of the AMP reverting to baseline growth, from the larger number facilitated by our interventions detailed in Line 12 commentary.

Line 16 - **Historic data**; our numbers have grown, on average, 17% year on year in the preceding 5 years.
Forecast data; Average of prior 5 years year on year growth, in real terms expressed as a percentage (17%), is used to calculate the base line growth and then an additional increment of 20% is applied in year 1 of next AMP, followed by an additional increment of 10% in year 2 of the AMP reverting to baseline growth, from the larger number facilitated by our interventions detailed in Line 12 commentary.

Line 17 - **Historic data**; our numbers have grown, on average, 23% year on year in the preceding 5 years.

Forecast data; Average of prior 5 years year on year growth, in real terms expressed as a percentage (23%), is used to calculate the base line growth and then an additional increment of 20% is applied in year 1 of next AMP, followed by an additional increment of 10% in year 2 of the AMP reverting to baseline growth, from the larger number facilitated by our interventions detailed in Line 12 commentary.

Line 18 - **Historic data**; our numbers have grown, on average, 4% year on year in the preceding 5 years.

Forecast data; Average of prior 5 years year on year growth, in real terms expressed as a percentage (4%), is used to calculate the base line growth and then an additional increment of 20% is applied in year 1 of next AMP, followed by an additional increment of 10% in year 2 of the AMP reverting to baseline growth, from the larger number facilitated by our interventions detailed in Line 12 commentary.

Line 19 - **Historic data**; our numbers have grown, on average, 17% year on year in the preceding 5 years.

Forecast data; Average of prior 5 years year on year growth, in real terms expressed as a percentage (17%), is used to calculate the base line growth and then an additional increment of 20% is applied in year 1 of next AMP, followed by an additional increment of 10% in year 2 of the AMP reverting to baseline growth, from the larger number facilitated by our interventions detailed in Line 12 commentary.

Line 20 – **Historic data**; Data is transposed from the SIM replica survey "ease of contact." Performance has remained broadly flat over the last five years though we acknowledge in 2017/18 performance deteriorated as a consequence of an unusual amount of major incidents (included in our annual submission) that resulted in some customers struggling to contact us as a consequence of unprecedented demand to speak with us.

Forecast data; Weighted average for 2018-19, then incremental improvement to achieve PC in 2020. Incremental improvement for the following AMP recognising that 97% is best in class

Line 21 – We have increased significantly those on the priority services register in the prior 24 months resulting in 28% of customers on the register being contacted about their services. We have commenced a programme to contact those first registered prior to 2016, prioritising those who identified themselves as having a medical need. Of the population identifying themselves as having a medical need, as at 31st May 2018; 29 have responded with 4 identifying themselves as no longer having that need. We will continue this hard work to contact all our customers on the PSR as part of our business as usual activity.

App5 - PR14 Reconciliations – Performance Commitments

A full explanation for our performance for each performance commitment is explained in our Final Business Plan, section C7.
We set out in our PR14 Business Plan the outcomes that we want to deliver for customers by 2020. These were identified following detailed engagement with our customers and stakeholders and agreed with the industry regulator Ofwat.

Price control allocation is explained below:

PC ref.	Performance Commitment (PC)	PR19 Price Control Allocation (all 100%)
A1	Unplanned Customer Minutes Lost	The performance commitment has been allocated to the water network plus price control because it is driven by the activity of maintaining the network.
A2	Infrastructure Asset Reliability	The performance commitment has been allocated to the water network plus price control because it is driven by the activity of maintaining the network.
A3	Non-Infrastructure Asset Reliability	The performance commitment has been allocated to the water network plus price control because the activity relates to water treatment
B1	Population at Risk from Asset Failure	The performance commitment has been allocated to the water network plus price control because the investment relates to network distribution and resilience of supplies.
C1	Security of Supply Index (SOSI)	No input required as this is a reputational ODI at PR14.
C2	Hosepipe Ban Frequency	The performance commitment has been allocated to the water network plus price control because the investment relates to resilience of supplies
D1	Mean Zonal Compliance (MZC)	The performance commitment has been allocated to the water network plus price control because of the link to water treatment activity
E1	Negative Water Quality Contacts	The performance commitment has been allocated to the water network plus price control because of the link to water treatment and network distribution
F1	Leakage	The performance commitment has been allocated to the water network plus price control because it is driven by the activity of maintaining the network.
G1	Meter Penetration	The performance commitment has been allocated to the water network plus price control because metering is included as an activity within the network plus control.
H1	Total Carbon Emissions	No input required as this is a reputational ODI at PR14.
H2	Raw Water Quality of Sources	No input required as this is a reputational ODI at PR14.
H3	Biodiversity Index	No input required as this is a reputational ODI at PR14.
H4	Waste Disposal Compliance	No input required as this is a reputational ODI at PR14.

G2	Per Capita Consumption	No input required as this is a reputational ODI at PR14.
I1	Percentage of customers in water poverty	No input required as this is a reputational ODI at PR14.
J1	Service Incentive Mechanism (SIM)	The performance commitment has been allocated to residential retail because it primarily measures customer-facing activities
J2	General satisfaction from surveys	No input required as this is a reputational ODI at PR14.
J3	Value for money	No input required as this is a reputational ODI at PR14.
K1	Ease of contact from surveys	No input required as this is a reputational ODI at PR14.
L1	Negative billing contacts	No input required as this is a reputational ODI at PR14.

This table also reconciles 2015-2020 performance for the company's 21 performance commitments; for 2018-19 and 2019-20.

In some cases, our performance against these commitments is subject to financial incentives that will impact the amount that we are allowed to charge customers between 2020 and 2025

App6 - PR14 Reconciliations – Sub-measures

We set out in our PR14 Business Plan the outcomes that we want to deliver for customers by 2020. These were identified following detailed engagement with our customers and stakeholders, and agreed with the industry regulator Ofwat.

This table reconciles 2015-2020 performance for the company's 4 sub-indicators; for 2018-19 and 2019-20.

A full explanation for our performance for each performance commitment is explained in our Final Business Plan, section C7. In summary:

Performance Commitment	Sub-measure	Forecast Performance
Asset reliability – infrastructure*	Total bursts	Sub-measure in line with FD targets
Asset reliability – infrastructure*	DG2: low pressure	Sub-measure in line with FD targets
Asset reliability – non-infrastructure	Turbidity performance at treatment works	Sub-measure in line with FD targets – overall assessment stable.
Asset reliability – non-infrastructure	Unplanned maintenance events	Sub-measure in line with FD targets – overall assessment stable.

*Methodology for calculation of the overall performance commitment means that 18/19 must be "marginal" as 17/18 was "marginal". Assume 19/20 reverts to stable based on forecast for 2018/19.

The assumption for the forecasts is that the company will achieve the 'threshold' level of performance for each sub-indicator, as defined in Bristol Water's final determination (company-specific appendix). The forecasts have been approved by the Executive.

App7 - Proposed price limits and average bills

This table is based on a Notional capital structure.
All values on this table are stated at Nominal for 2018-19 and 2019-20, with AMP7 years 2020-21 through 2020-25 at FYA (CPIH deflated)
All the values included in this table which are populated from the Ofwat financial use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.

The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Proposed wholesale limits**		
1	Wholesale water resources revenue requirement ~ base	£m	Linked Calculation
2	Wholesale water network plus revenue requirement ~ base	£m	Linked Calculation
3	Wholesale wastewater network plus revenue requirement ~ base	£m	Not Applicable to Bristol Water
4	Wholesale bioresources revenue requirement ~ base	£m	Not Applicable to Bristol Water
5	Wholesale dummy control revenue requirement ~ base	£m	Not Applicable to Bristol Water
B	**Proposed wholesale revenue requirement limits with re-profiling**		
6	Wholesale water resources revenue requirement with re-profiling ~ base	£m	Linked Calculation
7	Wholesale water network plus revenue requirement with re-profiling ~ base	£m	Linked Calculation

	LINE DESCRIPTION	Unit	Notes
8	Wholesale wastewater network plus revenue requirement with re-profiling ~ base	£m	Not Applicable to Bristol Water
9	Wholesale bioresources revenue requirement with re-profiling ~ base	£m	Not Applicable to Bristol Water
10	Wholesale dummy control revenue requirement with re-profiling ~ base	£m	Not Applicable to Bristol Water
C	**Total wholesale allowed revenue**		
11	Total wholesale water resources allowed revenue	£m	Linked Calculation
12	Total wholesale water network plus allowed revenue	£m	Linked Calculation
13	Total wholesale wastewater network plus allowed revenue	£m	Not Applicable to Bristol Water
14	Total wholesale wastewater bioresources allowed revenue	£m	Not Applicable to Bristol Water
15	Total wholesale dummy allowed revenue	£m	Not Applicable to Bristol Water
D	**Proposed wholesale revenue requirement limits with PR14 reconciliation adjustments**		
16	Wholesale water resources revenue requirement ~ with PR14 reconciliation adjustments and grants & contributions included	£m	Linked Calculation
17	Wholesale water network plus revenue requirement ~ with PR14 reconciliation adjustments and grants & contributions included	£m	Linked Calculation

	LINE DESCRIPTION	Unit	Notes
18	Wholesale wastewater network plus revenue requirement ~ with PR14 reconciliation adjustments and grants & contributions	£m	Not Applicable to Bristol Water
19	Wholesale bioresources revenue requirement ~ with PR14 reconciliation adjustments and grants & contributions	£m	Not Applicable to Bristol Water
20	Wholesale dummy control revenue requirement ~ with PR14 reconciliation adjustments and grants & contributions	£m	Not Applicable to Bristol Water
E	**K factors and bioresources average revenue per tonne of dry solid**		
21	Wholesale water resources k factor including PR14 reconciliation adjustments	%	Populated from the Ofwat financial model Notionalised =+'[PR19-14h-for-publication.LD8.002.001_NOTIONAL.xlsb]Exec Summary'!$M$18 to $P$18
22	Wholesale water network plus k factor including PR14 reconciliation adjustments	%	Populated from the Ofwat financial model Notionalised =+'[PR19-14h-for-publication.LD8.002.001_NOTIONAL.xlsb]Exec Summary'!$M$21 to $P$21
23	Wholesale wastewater network plus k factor including PR14 reconciliation adjustments	%	Not Applicable to Bristol Water
24	Wholesale bioresources average revenue per tonne of dry solids	£	Not Applicable to Bristol Water
25	Wholesale dummy control k factor including PR14 reconciliation adjustments	%	Not Applicable to Bristol Water

	LINE DESCRIPTION	Unit	Notes
F	**Average wholesale bills**		
26	Projected wholesale revenue from residential customers ~ water resources	£m	Linked Calculation
27	Average wholesale residential customer bill ~ water resources	£	Linked Calculation
28	Projected wholesale revenue from residential customers ~ water network plus	£m	Linked Calculation
29	Average wholesale residential customer bill ~ water network plus	£	Linked Calculation
30	Projected wholesale revenue from residential customers ~ wastewater network plus	£m	Not Applicable to Bristol Water
31	Average wholesale residential customer bill ~ wastewater network plus	£	Not Applicable to Bristol Water
32	Projected wholesale revenue from residential customers ~ bioresources	£m	Not Applicable to Bristol Water
33	Average wholesale residential customer bill ~ bioresources	£	Not Applicable to Bristol Water
34	Projected wholesale revenue from residential customers ~ dummy control	£m	Not Applicable to Bristol Water
35	Average wholesale residential customer bill ~ dummy control	£	Not Applicable to Bristol Water
G	**Average retail bills ~ residential**		
36	Average retail residential component ~	£	Linked Calculation

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td>water</td><td></td><td></td></tr>
<tr><td>37</td><td>Average retail residential component ~ wastewater</td><td>£</td><td>Not Applicable to Bristol Water</td></tr>
<tr><td>38</td><td>Average retail residential component ~ combined</td><td>£</td><td>Not Applicable to Bristol Water</td></tr>
<tr><td>H</td><td colspan="3">Average total bills ~ residential</td></tr>
<tr><td>39</td><td>Average total bill ~ water</td><td>£</td><td>
<table>
<tr><th>Table</th><th>Line</th><th>App7 line 28 calculation</th><th>2018-19</th><th>2019-20</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>WS13</td><td>15</td><td>Water: Unmeasured ~ household</td><td>42.312</td><td>40.369</td></tr>
<tr><td>WS13</td><td>17</td><td>Water: Measured ~ household</td><td>37.477</td><td>42.911</td></tr>
<tr><td>R9</td><td>31</td><td>Retail unmeasured</td><td>4.416</td><td>3.972</td></tr>
<tr><td>R9</td><td>34</td><td>Retail measured</td><td>7.176</td><td>8.352</td></tr>
<tr><td></td><td></td><td></td><td>91.381</td><td>95.604</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>R1</td><td>16</td><td>Unmeasured households</td><td>221.786</td><td>191.956</td></tr>
<tr><td>R1</td><td>16</td><td>Measured households</td><td>274.219</td><td>310.021</td></tr>
<tr><td></td><td></td><td></td><td>496.005</td><td>501.977</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Bill levels (nominal)</td><td>184.23</td><td>190.46</td></tr>
</table>
Average projected bill in nominal values.
AMP7 - Calculation - Sum of bill elements</td><td>2018-19 & 2019-20</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
40	Average total bill ~ wastewater	£	Not Applicable to Bristol Water
41	Average total combined bill	£	Not Applicable to Bristol Water
I	**Total revenue summary**		
42	Total wholesale revenue	£m	Calculation
43	Revenue ~ residential retail	£m	Linked Calculation
44	Revenue ~ business retail	£m	Linked Calculation
45	Total appointee revenue	£m	Calculation - Revenue converted to Nominal reconciles to App11a
J	**Reprofiling**		
46	Discount rate for re-profiling allowed revenue	%	Calculation of the average WACC from Wr5 & Wn5 in real terms (CPIH deflated) =ROUND((1+AVERAGE('Wr5'!$G$15,'Wn5'!$G$15))/(1+AVERAGE('App23'!$P$53:$T$53))-1,4) This functionality is not currently being used within the Bristol Water Business Plan as the proposed Totex is relatively stable.

App8 - Appointee financing

All values on this table are stated in real prices.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Financial</td></tr>
<tr><td>1</td><td>Net debt</td><td>£m</td><td>Off Line Calculation

Discounting of Net Debt | 2019-20
CPIH Year End from 2017-18 % | 104.09%
Net debt - Appointee - nominal POS | 365.030
Net debt 2017-18 FYE (CPIH deflated) | 350.682

Indexation rates are taken from App23 for CPIH for 31st March. Year End Rate 2020 / Year End Rate 2018
Net Debt Nominal From the Ofwat Finance Model
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$K$482</td></tr>
<tr><td>2</td><td>Equity dividends paid</td><td>£m</td><td>Off Line Calculation
Discounting of Dividend £m | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25
CPI(H): Fin year average - inflate from base year 2017-18 average | 106.11% | 108.24% | 110.42% | 112.63% | 114.87%
Dividend - Appointee - nominal POS | 6.011 | 6.212 | 6.419 | 6.633 | 6.853
Equity dividends paid 2017-18 FYA (CPIH deflated) | 5.665 | 5.739 | 5.813 | 5.889 | 5.966</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
			Indexation Rate From the Ofwat Finance Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Index'!$L$81 to $P$81 Dividend Nominal From the Ofwat Finance Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Analysis_Appointee'!$L$77 to $P$77
3	Cash inflow from equity financing	£m	Zero There is no plan for any new equity financing in AMP7
B	**RCV year end balances**		
Water RCV closing balance at 31 March 2020			
4	Wholesale water closing RCV at 31 March 2020 in 2012-13 prices (from PR14 FD)	£m	Value prepopulated from Input section
5	Wholesale water closing RCV at 31 March 2020 in 2017-18 year end prices before midnight adjustments	£m	This is an output from RCV adjustment feeder model (see commentary in Business Plan section C7)
6	Water ~ Total Adjustment RCV carry forward to PR19 at 2017-18 FYE CPIH deflated price base	£m	This is an output from RCV adjustment feeder model
7	Water ~ CIS RCV inflation correction at 2017-18 FYE CPIH deflated price base	£m	This is an output from RCV adjustment feeder model
8	Water ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017-	£m	This is an output from RCV adjustment feeder model

	LINE DESCRIPTION	Unit	Notes
	18 FYE CPIH deflated price base		
9	Water ~ ODI RCV adjustment allocated to Water resources at 2017-18 FYE CPIH deflated price base	£m	This is an output from RCV adjustment feeder model
10	Water ~ ODI RCV adjustment allocated to Water network plus at 2017-18 FYE CPIH deflated price base	£m	This is an output from RCV adjustment feeder model
11	Water ~ Totex menu RCV adjustment at 2017-18 FYE CPIH deflated price base	£m	This is an output from RCV adjustment feeder model
12	Water ~ Other adjustment to wholesale RCV	£m	Zero
13	Total wholesale water RCV at 31 March 2020 post midnight adjustments before allocation to price control units in 2017-18 FYE prices	£m	Calculation
14	Total wholesale water RCV at 31 March 2020 post midnight adjustments before allocation to price	£m	Calculation

	LINE DESCRIPTION	Unit	Notes
	control units in 2017-18 FYA prices		
Water resources % of total wholesale water RCV ~ 31 March 2020			
15	Water resources % of total wholesale water RCV ~ 31 March 2020	%	Linked Calculation
16	Water resources RCV ~ 1 April 2020	£m	Linked Calculation
17	Water resources IFRS16 RCV adjustment	£m	Linked Calculation
18	RPI:CPIH indexation split of opening RCV 1 April 2020	%	Value prepopulated from Input section
19	Water resources 2020 RCV RPI inflated ~ 1 April (opening balance)	£m	Calculation
20	Run off on RPI inflated 2020 RCV ~ wholesale water resources	£m	Linked Calculation
21	Water resources 2020 RCV RPI inflated ~ 31 March (closing balance)	£m	Calculation
22	Water resources 2020 RCV CPIH inflated ~ 1 April (opening balance)	£m	Calculation
23	Run off on CPIH inflated 2020 RCV ~ wholesale water resources	£m	Linked Calculation

	LINE DESCRIPTION	Unit	Notes
24	Water resources 2020 RCV CPIH inflated ~ 31 March (closing balance)	£m	Calculation
25	Water resources post 2020 investment CPIH inflated ~ 1 April (opening balance)	£m	Value prepopulated from Input section
26	Water resources post 2020 totex additions CPIH inflated	£m	Linked Calculation
27	Run off on post 2020 investment ~ wholesale water resources	£m	Linked Calculation
28	Water resources post 2020 investment CPIH inflated ~ 31 March (closing balance)	£m	Calculation
Water network plus RCV			
29	Water network plus % of total wholesale water RCV ~ 31 March 2020	%	Linked Calculation
30	Water network plus RCV ~ 1 April 2020	£m	Linked Calculation
31	Water network plus IFRS16 RCV adjustment	£m	Linked Calculation
32	RPI:CPIH indexation split of opening RCV 1 April 2020	%	Value prepopulated from Input section
33	Water network plus RCV RPI inflated ~ 1 April	£m	Calculation

	LINE DESCRIPTION	Unit	Notes
	(opening balance)		
34	Run off on RPI inflated 2020 RCV ~ wholesale water network plus	£m	Linked Calculation
35	Water network plus RCV RPI inflated ~ 31 March (closing balance)	£m	Calculation
36	Water network plus RCV CPIH inflated ~ 1 April (opening balance)	£m	Calculation
37	Run off on CPIH inflated 2020 RCV ~ wholesale water network plus	£m	Linked Calculation
38	Water network plus RCV CPIH inflated ~ 31 March (closing balance)	£m	Calculation
39	Water network plus post 2020 investment CPIH inflated ~ 1 April (opening balance)	£m	Value prepopulated from Input section
40	Water network plus post 2020 totex additions CPIH inflated	£m	Linked Calculation
41	Run off on post 2020 totex additions ~ wholesale water network plus	£m	Linked Calculation
42	Water network plus post	£m	Calculation

	LINE DESCRIPTION	Unit	Notes
	2020 investment CPIH inflated ~ 31 March (closing balance)		
Wastewater RCV closing balance at 31 March 2020			
43	Through to 52		Sub section not applicable to Bristol Water
Bioresources RCV			
53	Through to 68		Sub section not applicable to Bristol Water
Wastewater network plus RCV			
69	Through to 82		Sub section not applicable to Bristol Water
Dummy RCV			
83	Through to 101		Sub section not applicable to Bristol Water
C	**RCV balances at 31 March indexed by RPI**		
102	Wholesale water resources RCV at 31 March ~ RPI indexed	£m	Linked Calculation
103	Wholesale water network plus RCV at 31 March ~ RPI indexed	£m	Linked Calculation
104	Wholesale wastewater network plus RCV at 31 March ~ RPI indexed	£m	Not Applicable to Bristol Water
105	Wholesale bioresources RCV at 31 March ~ RPI indexed	£m	Not Applicable to Bristol Water
106	Wholesale dummy RCV at 31 March ~ RPI indexed	£m	Not Applicable to Bristol Water

	LINE DESCRIPTION	Unit	Notes
107	Total wholesale RCV at 31 March ~ RPI indexed	£m	Calculation
D	**Total of all RCV balances at 31 March**		
108	Wholesale water resources RCV at 31 March ~ CPIH indexed	£m	Calculation
109	Wholesale water network plus RCV at 31 March ~ CPIH indexed	£m	Calculation
110	Wholesale wastewater network plus RCV at 31 March ~ CPIH indexed	£m	Not Applicable to Bristol Water
111	Wholesale bioresources RCV at 31 March ~ CPIH indexed	£m	Not Applicable to Bristol Water
112	Wholesale dummy RCV at 31 March ~ CPIH indexed	£m	Not Applicable to Bristol Water
113	Total wholesale RCV at 31 March ~ CPIH indexed	£m	Calculation
E	**Total of all RCV balances at 31 March**		
114	Total wholesale RCV at 31 March	£m	Calculation The total Wholesale real RCV balance in App8 does not agree to the Ofwat Model real RCV total balances. We have reconciled the difference and found errors in the calculation of the real RCV in both the Financial Model and in App8. The total error in the RCV balance in Real terms is £0.064m in 2020-21 increasing to £1.313m by the end of AMP7. Proof to reconcile RCV balances shown in App8 and the Ofwat Financial Model is shown below.

App 8 - Revenue Reconciliation

C	RCV balances at 31 March indexed by RPI	2017-18 FYA (CPIH deflated)			2020-21	2021-22	2022-23	2023-24	2024-25	
102	Wholesale water resources RCV at 31 March ~ RPI indexed	APP8015WR_CPY	£m	3	57.111	55.950	54.802	53.666	52.542	
103	Wholesale water network plus RCV at 31 March ~ RPI indexed	APP8015WN_CPY	£m	3	194.273	183.616	173.439	163.718	154.430	
107	Total wholesale RCV at 31 March ~ RPI indexed	APP8023	£m	3	251.384	239.566	228.241	217.384	206.972	

D	RCV balances at 31 March indexed by CPIH	2017-18 FYA (CPIH deflated)			2020-21	2021-22	2022-23	2023-24	2024-25	
108	Wholesale water resources RCV at 31 March ~ CPIH indexed	APP8021WR	£m	3	60.145	61.616	66.217	67.187	68.040	
109	Wholesale water network plus RCV at 31 March ~ CPIH indexed	APP8021WN	£m	3	214.897	223.561	229.219	237.845	246.957	
113	Total wholesale RCV at 31 March ~ CPIH indexed	APP8024	£m	3	275.041	285.178	295.436	305.032	314.996	

Total Water Resources RCV (deflated) from App8					117.256	117.567	121.019	120.853	120.582	A wr
RCV balance - WR - real - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L65					117.263	117.591	121.069	120.942	120.717	B wr
Difference RCV App8 and Model Calculated RCV - Water Resources				A-B	**(0.007)**	**(0.024)**	**(0.050)**	**(0.089)**	**(0.136)**	X wr
Water Network RCV - 2017-18 FYA (deflated) from App8					409.170	407.177	402.658	401.563	401.387	A wn
RCV balance - WN - real - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L130					409.227	407.389	403.113	402.341	402.564	B wn
Difference RCV App8 and Model Calculated RCV - Water Network					**(0.057)**	**(0.212)**	**(0.455)**	**(0.778)**	**(1.177)**	X wn

NETWORK PLUS EXPLANATION OF DIFFERENCES									
	Network Plus RCV - 2017-18 FYA (CPIH deflated) - Sum from App8	Total from App8		409.170	407.177	402.658	401.563	401.387	A
	RCV balance - WR - real	Model RCV Balance Summary		409.227	407.389	403.113	402.341	402.564	B
Corrected App8 RCV (Recalculation below)				410.325	410.080	407.343	407.989	409.512	C
Difference between correct real and OFWAT model real			C-B	1.098	2.691	4.230	5.648	6.948	Y
Difference between correct real and App8 reported real			C-A	1.155	2.902	4.685	6.426	8.125	Z
Calculated Model Error			Y-Z	**(0.057)**	**(0.212)**	**(0.455)**	**(0.778)**	**(1.177)**	=X wn
				OK	**OK**	**OK**	**OK**	**OK**	
				OK	**OK**	**OK**	**OK**	**OK**	
RPI indexed RCV - nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L95				207.374	201.901	196.686	191.643	186.732	D
Convert "D" Convert above to CPIH using App23				195.435	186.524	178.127	170.147	162.555	E
Convert nominal "D" to 19/20 FYE using RPI indices (incorrect)				204.002	192.976	182.546	172.680	163.347	F
Convert "F" to 17/18 FYA CPIH				194.336	183.833	173.897	164.498	155.608	G
Difference between correct real and OFWAT model real			E-G	1.099	2.691	4.229	5.649	6.948	H = Y
RCV balance - WN - nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L133				435.392	443.887	449.784	459.534	470.418	
Correct conversion to Real using App23				410.325	410.080	407.343	407.989	409.512	C
Water Resources RPI indexed RCV									
Bfd Nominal				213.817	207.374	201.901	196.686	191.643	= Q
Indexation Nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L89				5.405	6.062	6.022	5.907	5.758	
Run-off Nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L90				-11.848	-11.536	-11.238	-10.949	-10.669	M
C fwd - Nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!$K$30			213.817	207.374	201.901	196.686	191.643	186.732	Q
C/fwd balance converted to Real - CPIH - using App23			205.439	195.435	186.524	178.127	170.147	162.556	O
Run-off in nominal terms				-11.848	-11.536	-11.238	-10.949	-10.669	M
Run-off converted to real terms - Converted using App23				-11.166	-10.657	-10.177	-9.721	-9.288	N
Incorrect App8 treatment that ignored RPI wedge indexation									
Bfd - real				205.439	194.273	183.616	173.439	163.718	
Run-off real				-11.166	-10.657	-10.177	-9.721	-9.288	
Cf real			205.439	194.273	183.616	173.439	163.718	154.430	P
Difference between correct real and App8 reported real									
			O-P	1.162	2.908	4.688	6.429	8.126	S= Z

WATER RESOURCES EXPLANATION OF DIFFERENCES									
Water Resources RCV - 2017-18 FYA (CPIH deflated) - Sum from App8	Total from App8			117.256	117.567	121.019	120.853	120.582	A
RCV balance - WR - real	Model RCV Balance Summary			117.263	117.591	121.069	120.942	120.717	B
Corrected App8 RCV (Recalculation below)				117.586	118.410	122.404	122.788	123.069	C
Difference between correct real and OFWAT model real			C-B	0.323	0.819	1.335	1.846	2.352	Y
Difference between correct real and App8 reported real			C-A	0.330	0.844	1.385	1.935	2.487	Z
Calculated Model Error			Y-Z	**(0.007)**	**(0.025)**	**(0.050)**	**(0.089)**	**(0.136)**	= X wr
				OK	**OK**	**OK**	**OK**	**OK**	
				OK	**OK**	**OK**	**OK**	**OK**	
RPI indexed RCV - nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L30				60.950	61.476	62.042	62.625	63.215	D
Convert "D" to CPIH using App23				57.441	56.794	56.188	55.600	55.030	E
Convert nominal "D" to 19/20 FYE using RPI indices (incorrect)				59.959	58.758	57.582	56.428	55.298	F
Convert "F" to 17/18 FYA CPIH				57.118	55.974	54.854	53.755	52.678	G
Difference between correct real and OFWAT model real			E-G	0.323	0.819	1.334	1.846	2.352	H = Y
RCV balance - WR - nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L68				124.769	128.172	135.157	138.301	141.373	
Correct conversion to Real using App23				117.586	118.410	122.404	122.788	123.069	C
Water Resources RPI indexed RCV									
Bfd Nominal				60.662	60.950	61.476	62.042	62.625	= Q
Indexation Nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L24				1.533	1.782	1.834	1.863	1.882	
Run-off Nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!L25				-1.245	-1.256	-1.268	-1.280	-1.292	M
C fwd - Nominal - [PR19-14h-for-publication.LD6C.001.001_ACTUAL.xlsb]RCV balance Summary'!$K$30			60.662	60.950	61.476	62.042	62.625	63.215	Q
C/fwd balance converted to Real - CPIH - using App23			58.285	57.441	56.794	56.188	55.600	55.030	O
Run-off in nominal terms				-1.245	-1.256	-1.268	-1.280	-1.292	M
Run-off converted to real terms - Converted using App23				-1.173	-1.160	-1.148	-1.136	-1.125	N
Incorrect App8 treatment that ignored RPI wedge indexation									
Bfd - real				58.285	57.112	55.951	54.803	53.667	
Run-off real				-1.173	-1.160	-1.148	-1.136	-1.125	N
Cf real			58.285	57.112	55.951	54.803	53.667	52.542	P
Difference between correct real and App8 reported real			O-P	0.329	0.842	1.385	1.934	2.488	S = Z

App9 – Adjustments to RCV from disposals of land

There have been no sales reported in the APR for 2014/15 and 2015/16, however there were three:

- 2015/16 Land adjoining Sunny Ranch, Cross £5k
- 2014/15 13 Oak Road Winscombe proceeds £199k
- Stowey TW Land & bungalows £265k

These were omitted in error – this was noted following a query in the initial submission..

We believe the £500k threshold for applying to Ofwat for a disposal certificate in respect of protected land, was erroneously applied historically to populating these fields in the APR. There is not a deminimis amount, or any other reason they should not have been included.

2014/15 – This should have been reported in a single line in Ofwat's table 2E (this would have been at the end of table C12 of our APR). It did not affect any other tables or line entries. In this year Ofwat did not ask for Excel files to be submitted. 2013/14 was zero, which may be another reason it was missed. With no excel to complete, the 2014 C12 was updated, which had no disposals from land.
The information which should have been shown at the end of table C12 (in £000s, our APR was in £m to 1dp) is:

Land sales £000s	2014/15			2013/14		
	Water	Waste water	Total	Water	Waste water	Total
Proceeds from disposals of protected land	£464	0	£464	0	0	0

2015/16-As per 2014/15, should have been reported in a single line in Ofwat's table 2E. The update to table 2E for 2015/16 current year is as follows:

D	Land sales					
16	Proceeds from disposals of protected land	£m	3	0.005	0.000	0.005

Updated APR tables have been submitted to Ofwat.

The sales were included in the financial accounts and regulatory accounts Profit and Loss Account and Balance Sheet. They were only omitted from the disposal of protected land reporting.

The forecast sales for 2018/19 are for a plot of land, two houses and the majority of the value is for a depot for which planning permission has been applied. The forecast has been provided by our land agent based on current market information. These are the net sales proceeds (net of costs of sales).

App10 – Financial Ratios

Comments on method for producing data
All values on this table are stated at nominal prices.
Section A is based on a Notional capital structure and Section B the Actual capital structure.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Financial ratios ~ Notional company structure**		
1	Gearing	%	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$504 to $P$504
2	Interest cover	ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$493 to $P$493
3	Adjusted cash interest cover	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$494 to $P$494
4	Adjusted cash interest cover (alternative calculation)	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$495 to $P$495
5	FFO/Net Debt	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$496 to $P$504 The input cell format is a percentage which is correct but does not match the unit description Ratio
6	FFO/Net Debt (alternative calculation)	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$497 to $P$497 • A change was required to the Ofwat Financial Model to correct this ratio. • Tab, Analysis_Appointee, Row 178, we amended the link to return a negative value. • Required for Fast Money and AICR Ratio to make the ratio positive.

	LINE DESCRIPTION	Unit	Notes
			• The input cell format is a percentage which is correct but does not match the unit description Ratio
7	Dividend cover	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$499 to $P$499
8	RCF/Net Debt	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$498 to $P$498 The input cell format is a percentage which is correct but does not match the unit description Ratio
9	RCF/Capex	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$502 to $P$502 The input cell format is a percentage which is correct but does not match the unit description Ratio
10	Return on capital employed	%	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$505 to $P$505
11	RORE	%	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$507 to $P$507
12	Target Credit Rating	Text	Moody's AICR Baa2 The chosen target rating is supported by the Moody's AICR ratio calculated on Line 13. This is explained in more detail in section C6.
13	Bristol Water Moody's AICR	ratio	**Bristol Water - Moody's AICR Calculation** **2020-21** PAYG Totex - Appointee - nominal 71.003 PAYG Totex - Appointee - indexed to year end 71.592 Less Total revenue accrued - Business - nominal 67.068 Add back Opex Retail Retail service opex - Residential - nominal POS 9.153 **Calculation of Excess fast money - Appointee - nominal** 13.676 Revenue - Appointee - nominal 122.927

LINE DESCRIPTION	Unit	Notes	
		Operating income - Appointee - nominal	-
		Opex - Appointee - nominal	(67.068)
		Other Income (incl. 3rd party income) - Appointee - nominal	2.166
		EBITDA	58.024
		Less	
		Current tax charge - Appointee - nominal	(1.931)
		Capital charges - Appointee - nominal	(26.627)
		Less Excess Fast Money	(13.676)
		Numerator	**15.789**
		Interest income /(expense) excl. indexation of index-linked loans - Appointee - nominal	13.251
		Less Preference share dividends paid (post override) - nominal	-
		Denominator	**13.251**
		Moody's AICR	**1.19**
		For the Notionalised structure the preference share elements of the calculation will be zero. **Populated from the Ofwat Financial Model** PAYG Totex - Appointee - nominal = '[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Analysis_Appointee'!$L$177 Total revenue accrued - Business - nominal = '[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Appointee'!$L$11 Retail service opex - Residential - nominal POS = '[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Appointee'!$L$78 Revenue - Appointee - nominal ='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$9 Operating income - Appointee - nominal ='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$10 Other Income (incl. 3rd party income) - Appointee - nominal ='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$15	

	LINE DESCRIPTION	Unit	Notes
			Current tax charge - Appointee - nominal ='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$20 Capital charges - Appointee - nominal ='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Analysis_Appointee'!$L$182 Interest income /(expense) excl. indexation of index-linked loans - Appointee - nominal POS = '[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Analysis_Appointee'!L$152 Preference share dividends paid (post override) - nominal (Positive) ='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]InpActive'!$L$1260
14	Bristol Water S&P FFO/Debt	%	**Bristol Water - S&P FFO/Debt** **2020-21** EBITDA 58.024 Interest Income (excluding intercompany from Bristol Water models) 0.100 Less Indexation of index-linked loans - Appointee - nominal (3.174) Interest income /(expense) excl. indexation of index-linked loans - Appointee - nominal (13.251) Current tax charge - Appointee - nominal (1.931) **AFFO - Numerator** **39.768** Debt balance - Appointee - nominal 347.080 Preference share capital balance - Appointee - nominal - Net cash (9.805) 6 mth interest (Interest from above divided by 2) 6.625 **Denominator** **343.901** **S&P FFO/Debt** **11.56%** For the Notionalised structure the preference shares and associated interest are excluded. Populated from the Ofwat Financial Model (links not already used in the Moody's AICR line 13) Debt balance - Appointee - nominal

	LINE DESCRIPTION	Unit	Notes
			='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Analysis_Appointee'!$L$40 Preference share capital balance - Appointee – nominal =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Analysis_Appointee'!$L$42 This measure is a percentage. We have entered % under units, however we can not change the cell format to show a % to 2 decimal places, we have therefore entered the data as a decimal to 4 places although the cell formatting only displays two decimal places.
15-22	Company proposed financial ratio C to J	Ratio	Blank Not applicable to Bristol Water
A	**Financial ratios ~ Actual capital structure**		
23	Gearing	%	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$504 to $P$504
24	Interest cover	ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$493 to $P$493
25	Adjusted cash interest cover	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$494 to $P$504
26	Adjusted cash interest cover (alternative calculation)	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$495 to $P$504
27	FFO/Net Debt	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$496 to $P$496 The input cell format is a percentage which is correct but does not match the unit description Ratio
28	FFO/Net Debt (alternative calculation)	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$497 to $P$497 • A change was required to the Ofwat Financial Model to correct this ratio. • Tab, Analysis_Appointee, Row 178, we amended the link to return a negative value. Required for Fast Money and AICR Ratio to make the ratio positive. The input cell format is a percentage which is correct but does not match the unit description Ratio

	LINE DESCRIPTION	Unit	Notes
29	Dividend cover	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$499 to $P$499
30	RCF/Net Debt	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$498 to $P$498
31	RCF/Capex	Ratio	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$502 to $P$502
32	Return on capital employed	%	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$505 to $P$505
33	RORE	%	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$507 to $P$507
34	Target Credit Rating	Text	Moody's AICR Baa2 The chosen target rating is supported by the Moody's AICR ratio calculated on Line 13. This is explained in more detail in section C6.
35	Bristol Water Moody's AICR	ratio	**Bristol Water - Moody's AICR Calculation** **2020-21** PAYG Totex - Appointee - nominal 71.003 PAYG Totex - Appointee - indexed to year end 71.592 Less Total revenue accrued - Business - nominal 67.068 Add back Opex Retail Retail service opex - Residential - nominal POS 9.153 **Calculation of Excess fast money - Appointee - nominal** 13.676 Revenue - Appointee - nominal 122.242 Operating income - Appointee - nominal - Opex - Appointee - nominal (67.068) Other Income (incl. 3rd party income) - Appointee - nominal 2.166 EBITDA 57.339 Less

	LINE DESCRIPTION	Unit	Notes	
			Current tax charge - Appointee - nominal	(1.754)
			Capital charges - Appointee - nominal	(26.627)
			Less Excess Fast Money	(13.676)
			Numerator	**15.281**
			Interest income /(expense) excl. indexation of index-linked loans - Appointee - nominal	13.920
			Preference share dividends paid (post override) - nominal (Positive)	(1.094)
			Denominator	**12.826**
			Moody's AICR	**1.19**
			For the Actual company structure the preference shares are included Please see section A Line 13 for the links to the Ofwat Financial Model	
36	Bristol Water S&P FFO/Debt	%	**Bristol Water - S&P FFO/Debt**	**2020-21**
			EBITDA	57.339
			Interest Income (excluding intercompany from Bristol Water models)	0.100
			Less	
			Indexation of index-linked loans - Appointee - nominal	(5.712)
			Interest income /(expense) excl. indexation of index-linked loans - Appointee - nominal	(13.920)
			Current tax charge - Appointee - nominal	(1.754)
			AFFO - Numerator	**36.052**
			Debt balance - Appointee - nominal	375.575
			Preference share capital balance - Appointee - nominal	12.500
			Net cash	(12.238)
			6 mth interest (Interest from above divided by 2)	6.413
			Denominator	**382.250**
			S&P FFO/Debt	**9.43%**
			For the Actual company structure the preference shares are included within the “Interest Income /	

	LINE DESCRIPTION	Unit	Notes
			(expense) excl. indexation of index-linked loans – Appointee – nominal" number. Please see section A Line 14 for the links to the Ofwat Financial Model This measure is a percentage. We have entered % under units, however we can not change the cell format to show a % to 2 decimal places, we have therefore entered the data as a decimal to 4 places although the cell formatting only displays two decimal places.
37-44	Company proposed financial ratio C to J	Ratio	Blank Not applicable to Bristol Water

App11 - Income Statement based on actual company structure

All values on this table are stated at nominal prices.
All the values included in this table are generated from the Ofwat financial modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Income Statement ~ actual company structure**		
1	Revenue	£m	

Total Revenue

	2020-21	2021-22	2022-23	2023-24	2024-25
Revenue - Appointee	122.242	125.442	128.456	131.769	134.699
Other Income (incl. 3rd party income)	2.166	2.209	2.253	2.299	2.344
Less net Rents in other Income	(0.190)	(0.190)	(0.190)	(0.190)	(0.190)
	124.218	127.461	130.519	133.878	136.853

Total revenue has been populated from the Ofwat financial model by adding together:
Revenue Appointee
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$212 to $P$212
Plus Other Income
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$218 to $P$218
Less Net rental income from appointed assets.
=+' [PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$L$31 to $P$31

In line with RAG 4.07, this is the total business revenue that is within the scope of the price control, together with revenue that is outside of the price control but still forms part of regulated activities.

This therefore includes “Other Income (incl. 3rd party income) - Appointee – nominal” from the

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>Ofwat financial model as detailed below (shown in nominal prices):

<table>
<tr><th></th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr>
<tr><td>Third party</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Other non-price control third party services</td><td>0.324</td><td>0.330</td><td>0.337</td><td>0.344</td><td>0.350</td></tr>
<tr><td>Bulk supplies (signed before 1 April 2020)</td><td>0.892</td><td>0.910</td><td>0.929</td><td>0.947</td><td>0.966</td></tr>
<tr><td>Bulk supplies (signed after 1 April 2020)</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rechargeable works</td><td>0.748</td><td>0.763</td><td>0.778</td><td>0.794</td><td>0.810</td></tr>
<tr><td>Revenue from principle services</td><td>0.201</td><td>0.205</td><td>0.210</td><td>0.214</td><td>0.218</td></tr>
<tr><td></td><td>2.165</td><td>2.208</td><td>2.254</td><td>2.299</td><td>2.344</td></tr>
</table></td></tr>
<tr><td>2</td><td>Operating expenditure</td><td>£m</td><td>Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$214 to $P$214</td></tr>
<tr><td>3</td><td>Depreciation</td><td>£m</td><td>Bristol Water includes contributions within fixed assets, and therefore the amortisation is an offset to the depreciation charge. In line with RAG4.07, we have adjusted the depreciation charge to show the amortisation of contributions within Other Income (line 7).

Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$215 to $P$215
less
The Amortisation of deferred income shown below

<table>
<tr><th></th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr>
<tr><td>Amortisation of deferred income</td><td>1.839</td><td>1.800</td><td>1.748</td><td>1.630</td><td>1.422</td></tr>
</table></td></tr>
<tr><td>4</td><td>Amortisation</td><td>£m</td><td>Zero
The amortisation of intangible fixed assets (such as software) is included within line 3 as the Ofwat financial model does not amortise intangible fixed assets.</td></tr>
</table>

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>Amortisation of deferred income is included in line 7 (Other income) in line with RAG4.07.</td></tr>
<tr><td>5</td><td>Operating Income</td><td>£m</td><td>Zero
There are no sales of assets forecast, and so operating income is zero (no profit on sales of fixed assets).</td></tr>
<tr><td>6</td><td>Operating Profit</td><td>£m</td><td>Calculated cell</td></tr>
<tr><td>7</td><td>Other income</td><td>£m</td><td>Populated from the Ofwat Financial Model as per the mapping tool
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$213 to $P$213
plus the Amortisation of deferred income

This line is made up of the following:

<table>
<tr><th></th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr>
<tr><td>Rental income</td><td>0.190</td><td>0.190</td><td>0.190</td><td>0.190</td><td>0.190</td></tr>
<tr><td>Amortisation of deferred income</td><td>1.839</td><td>1.800</td><td>1.748</td><td>1.630</td><td>1.422</td></tr>
<tr><td></td><td>2.029</td><td>1.990</td><td>1.938</td><td>1.820</td><td>1.612</td></tr>
</table>
</td></tr>
<tr><td>8</td><td>Interest income</td><td>£m</td><td>Zero
Net interest from the model is included within interest expenses.
Intercompany interest income has been excluded in line with previous business plan submissions.</td></tr>
<tr><td>9</td><td>Interest expense</td><td>£m</td><td>Populated from the Ofwat Financial Model as per the mapping tool
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$219 to $P$219
plus
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$220 to $P$220
Net interest from the model is an expense.</td></tr>
<tr><td>10</td><td>Interest expense related to the unwinding of discounted liabilities</td><td>£m</td><td>Zero
There are no discounted liabilities in the Bristol Water AMP7 submission</td></tr>
<tr><td>11</td><td>Profit before tax and fair</td><td>£m</td><td>Calculated cell</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
	value movements		
12	Fair value gains/(losses) on derivative financial instruments	£m	Zero There are no derivative financial instruments in the Bristol Water AMP7 submission. Current interest swap arrangements reported in APR18 expire by 2020.
13	Profit before tax	£m	Calculated cell
14	UK Corporation tax	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$223 to $P$223
15	Deferred tax	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$224 to $P$224
16	Profit for the year	£m	Calculated cell
B	**Dividends ~ actual company structure**		
17	Dividends	£m	Preference share dividends are not included here. Intercompany dividends have been excluded to be consistent with the exclusion of intercompany interest income and treatment at previous business plan submissions.
C	**Taxation ~ actual company structure**		
18	Effective tax rate	%	Calculated cell

App11a - Income Statement based on a notional company structure

All values on this table are stated at nominal prices.
All the values included in this table are generated from the Ofwat financial modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Income Statement ~ notional company structure**		
1	Revenue	£m	

	2020-21	2021-22	2022-23	2023-24	2024-25
Revenue - Appointee	122.927	126.193	129.284	132.651	135.631
Other Income (incl. 3rd party income)	2.166	2.209	2.253	2.299	2.344
Less net Rents in other Income	(0.190)	(0.190)	(0.190)	(0.190)	(0.190)
	124.903	128.212	131.347	134.760	137.785

Total revenue has been populated from the Ofwat financial model by adding together:
Revenue Appointee
=+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$212 to $P$212
plus
=+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$218 to $P$218
Less
Net rental income from appointed assets.
=+' [PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Water Network'!$L$31 to $P$31

In line with RAG 4.07, this is total business revenue that is within the scope of the price control, together with revenue that is outside of the price control but still forms part of regulated activities.

This therefore includes “Other Income (incl. 3rd party income) - Appointee – nominal” from the Ofwat financial model as follows (shown in nominal prices):

	LINE DESCRIPTION	Unit	Notes

	2020-21	2021-22	2022-23	2023-24	2024-25
Third party	-	-	-	-	-
Other non-price control third party services	0.324	0.330	0.337	0.344	0.350
Bulk supplies (signed before 1 April 2020)	0.892	0.910	0.929	0.947	0.966
Bulk supplies (signed after 1 April 2020)	-	-	-	-	-
Rechargeable works	0.748	0.763	0.778	0.794	0.810
Revenue from principle services	0.201	0.205	0.210	0.214	0.218
	2.165	2.208	2.254	2.299	2.344

2	Operating expenditure	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$214 to $P$214
3	Depreciation	£m	Bristol Water includes contributions within fixed assets, and therefore the amortisation is an offset to the depreciation charge. In line with RAG4.07, we have adjusted the depreciation charge to show the amortisation of contributions within Other Income (line 7). Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$215 to $P$215 less The Amortisation of deferred income shown below

	2020-21	2021-22	2022-23	2023-24	2024-25
Amortisation of deferred income	1.839	1.800	1.748	1.630	1.422

4	Amortisation	£m	Zero The amortisation of intangible fixed assets (such as software) is included within line 3 as the Ofwat financial model does not amortise intangible fixed assets. Amortisation of deferred income is included in line 7 (Other income) in line with RAG4.07.

	LINE DESCRIPTION	Unit	Notes
5	Operating Income	£m	Zero There are no sales of assets forecast, and so operating income is zero (no profit on sales of fixed assets).
6	Operating Profit	£m	Calculated cell
7	Other income	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$213 to $P$213 plus the Amortisation of deferred income This line is made up of the following:

	2020-21	2021-22	2022-23	2023-24	2024-25
Rental income	0.190	0.190	0.190	0.190	0.190
Amortisation of deferred income	1.839	1.800	1.748	1.630	1.422
	2.029	1.990	1.938	1.820	1.612

8	Interest income	£m	Zero Interest is netted in the model and net interest is included within Interest expenses for Bristol Water. Intercompany interest income has been excluded in line with previous business plan submissions.
9	Interest expense	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$219 to $P$219 plus =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$220 to $P$220 Interest is netted in the model and net interest is an expense for Bristol Water.
10	Interest expense related to the unwinding of discounted liabilities	£m	Zero There are no discounted liabilities in the Bristol Water AMP7 submission
11	Profit before tax and fair	£m	Calculated cell

	LINE DESCRIPTION	Unit	Notes
	value movements		
12	Fair value gains/(losses) on derivative financial instruments	£m	Zero There are no derivative financial instruments in the Bristol Water AMP7 submission. Current interest swap arrangements reported in APR18 expire by 31st March 2020.
13	Profit before tax	£m	Calculated cell
14	UK Corporation tax	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$223 to $P$223
15	Deferred tax	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$224 to $P$224
16	Profit for the year	£m	Calculated cell
B	**Dividends ~ notional company structure**		
17	Dividends	£m	Preference share dividends are not included in the notional modelling. Intercompany dividends have been excluded to be consistent with the exclusion of intercompany interest income and treatment at previous business plan submissions.
C	**Taxation ~ notional company structure**		
18	Effective tax rate	%	Calculated cell

App12 - Balance sheet based on the actual company structure

All values on this table are stated at nominal prices.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Non-current assets ~ actual company structure**		
1	Tangible fixed assets	£m	Linked from App16.
2	Intangible assets	£m	Zero The intangible balance of £8.541m reported in the APR18 1C Line 2 in accordance with the RAG relates to software. This is treated as a fixed asset and amortised over the life of the asset. The Ofwat financial modelling tool does not calculate amortisation so we have we have treated this as fixed assets in the Ofwat Model to drive the P&L charge as depreciation throughout AMP7. Therefore computer software has been included in the tangible fixed asset balance in line 1.
3	Investments ~ loans to group companies	£m	The opening balance sheet value for loans to group companies is based on a forecast forward from APR18 1C Line 3. AMP7 years are populated from the Ofwat financial model. As software has been treated as a Fixed Asset in the model the group loan represents the Intangible balance in the model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$L$84 to $P$84 The loan value does not change from APR 18 and remains constant through AMP7.
4	Investments ~ other	£m	Zero There are no other investments
5	Derivative financial instruments	£m	Zero There are no derivative financial instruments in AMP7, those reported as non-current liabilities in APR18 1C line 23 expire by 2020.
6	Retirement benefit	£m	2019-20 = Opening Balance sheet

	LINE DESCRIPTION	Unit	Notes
	assets		The opening balance sheet value for the pension credit is based on a forecast forward from APR18 1C line 6. The forecast shows a small increase in the asset value. AMP7 years are populated from the Ofwat financial model. =-+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$L$100 to $P$100 Bristol Water has a Pension Asset, this is expected to remain an asset throughout AMP7
7	Total non-current assets	£m	Calculated Cell
B	**Current liabilities ~ actual company structure**		
8	Inventories	£m	Inventories are a relatively small number for Bristol Water that remains fairly stable over time. 2019-20 = Opening Balance sheet The opening balance sheet value for inventories is based on a forecast forward from APR18 1C line 8. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$L$88 to $P$88
9	Trade and other receivables	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$K$89 to $P$89 Plus 'App14'!G11 (Wholesale creditors ~ residential retail) to net out the inter price control debtor/creditor balances. This follows the guidance provided in response to Query 342
10	Derivative financial instruments	£m	Zero There are no derivative financial instruments in AMP7, those reported as non-current liabilities in APR18 1C line 23 expire by 2020.
11	Cash and cash equivalents	£m	Linked to Section B total cash and cash equivalents line 48. Bristol Water targets maintaining a cash balance above £10m.
12	Total current assets	£m	Calculated Cell
C	**Current liabilities**		
13	Trade and other	£m	Populated from the Ofwat financial model.

	LINE DESCRIPTION	Unit	Notes
	payables		Includes dividend creditor (although this is zero for Bristol Water as dividends are paid in the year) =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$K$94 to $P$94 plus =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$K$96 to $P$96 Less 'App14'!G11 (Wholesale creditors ~ residential retail) to net out the inter price control debtor/creditor balances. This follows the guidance provided in response to Query 342
14	Capex creditor	£m	Linked to Section B total capex creditor line 44
15	Borrowings	£m	Zero There are no borrowings due within one year during AMP7. Existing loans earliest maturity date is 2028-29
16	Derivative financial instruments	£m	Zero There are no derivative financial instruments in AMP7, those reported as non-current liabilities in APR18 1C line 23 expire by 2020.
17	Current tax liabilities	£m	2019-20 = Opening Balance sheet The opening balance sheet value for current tax liabilities is based on a forecast forward from APR18 1C line 17, these are in line with position reported in APR18 taking into account changes to Tax rates and HMRC guidance. AMP7 years are populated from the Ofwat financial model. -'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$L$99 to $P$99
18	Provisions	£m	Zero– the forecast does not project provisions. Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$K$101 to $P$101 The provisions disclosed in APR18 1C line 18 represent the current portion of deferred income. All of the deferred income balance is included in line 26 in this table.
19	Total current liabilities	£m	Calculated Cell

	LINE DESCRIPTION	Unit	Notes
D	**Net current assets and liabilities ~ actual company structure**		
20	Net current assets and liabilities	£m	Calculated Cell
E	**Non-current liabilities ~ actual company structure**		
21	Trade and other payables	£m	Zero There are no trade or other payables due greater than 1 year.
22	Borrowings	£m	Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$K$282 to $P$282 Less Section C, Line 15 (current borrowing liabilities)
23	Derivative financial instruments	£m	Zero There are no derivative financial instruments in AMP7, those reported in APR18 1C line 23 expire by 2020.
24	Retirement benefit obligations	£m	Zero – Pension is an Asset for Bristol Water and expected to remain so for AMP7.
25	Provisions	£m	Zero – the forecast does not project provisions.
26	Deferred income ~ G&C's	£m	The opening balance sheet value Deferred Income is based on a forecast forward from APR18 1C line26, including the current portion that was disclosed in Provisions. The values have been forecasted in our Corporate Model based on the Grants & Contribution expected less the amortisation of the income. These values have been split out from the Retained Earnings balance taken from the Ofwat Financial Model (see line 37).
27	Deferred income ~ adopted assets	£m	Zero There are no adopted assets generating deferred income
28	Preference share capital	£m	Populated from the Ofwat financial model. Our preference share balance is expected to remain constant in AMP7. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!K$98 to $P$98

	LINE DESCRIPTION	Unit	Notes
29	Total non-current liabilities	£m	Calculated Cell
F	**Net assets before deferred tax ~ actual company structure**		
30	Net assets before deferred tax	£m	Calculated Cell
G	**Deferred tax ~ actual company structure**		
31	Deferred tax	£m	2019-20 = Opening Balance sheet The opening balance sheet value for Deferred Tax is based on a forecast forward from APR18 1C line 29, these are in line with position reported in APR18 taking into account changes to Tax rates and HMRC guidance. AMP7 years are populated from the Ofwat financial model. ='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$L$108 to $P$108
H	**Net assets ~ actual company structure**		
32	Net assets	£m	Calculated Cell
I	**Equity**		
33	Called up share capital (including any share premium)	£m	Linked from App18
34	Retained profits	£m	Linked to Section B total Retained Profits line 40
35	Other reserves	£m	Other reserves consist of a capital redemption reserve and a hedging reserve. Both are based on our 2017-18 actuals and are assumed to remain constant in the forecast. In reality the hedging reserve would fluctuate, but this is difficult to forecast accurately. 2019-20 = Opening Balance sheet The values do not change from 2017-18 and remain constant through AMP7. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Appointee'!$L$113 to

	LINE DESCRIPTION	Unit	Notes
			$P$113
36	Total equity	£m	Calculated Cell
J	**Wholesale and retail line item split ~ actual company structure**		
37	Retained profits ~ wholesale	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Wholesale'!$L$116 to $P$116 Less Section E, Line 26 Deferred Income
38	Retained profits ~ residential retail	£m	2019-20 = Opening Balance sheet The opening Retained Profits for Residential Retail is taken as the Net Assets from the 2019-20 balance sheet. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Residential'!$L$85 to $P$85
39	Retained profits ~ business retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Business'!$K$85 to $P$85 Zero as Bristol Water has exited the Business Retail market.
40	Retained profits	£m	Calculated Cell
41	Capex creditor ~ wholesale	£m	2019-2020 = Opening Balance sheet The opening balance sheet value for the Capex Creditor is based on a forecast forward from APR18 1C line 14 and the Investment Plan for 2018-19 and 2019-20. AMP7 years are populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Wholesale'!$L$97 to $P$97 Using the input from the detailed Investment Plan.
42	Capex creditor ~ residential retail	£m	Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Residential'!$K$82 to $P$82 For the opening balance sheet no Capex Creditor was allocated to the Residential Retail
43	Capex creditor ~ business retail	£m	Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Business'!$K$82 to $P$82

	LINE DESCRIPTION	Unit	Notes
			Zero as Bristol Water has exited the Business Retail market.
44	Capex creditor	£m	Calculated Cell
45	Cash and cash equivalents ~ wholesale	£m	2019-20 = Opening Balance sheet The opening balance sheet value for Cash is based on a forecast forward from APR18 1C line 11. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Wholesale'!$L$78 o $P$78
46	Cash and cash equivalents ~ residential retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Residential'!$K$65 to $P$65 For the opening balance sheet no cash was allocated to the Residential Retail
47	Cash and cash equivalents ~ business retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Business'!$K$65 to $P$65 Zero as Bristol Water has exited the Business Retail market.
48	Cash and cash equivalents	£m	Calculated Cell

App12a - Balance sheet based on a notional company structure

All values on this table are stated at nominal prices.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Non-current assets ~ Notional company structure**		
1	Tangible fixed assets	£m	Linked from App16.
2	Intangible assets	£m	Zero The intangible balance of £8.541m reported in the APR18 1C Line 2 in accordance with the RAG relates to software. This is treated as a fixed asset and amortised over the life of the asset. The Ofwat financial modelling tool does not calculate amortisation so we have we have treated this as fixed assets in the Ofwat Model to drive the P&L charge as depreciation throughout AMP7. Therefore computer software has been included in the tangible fixed asset balance in line 1.
3	Investments ~ loans to group companies	£m	The opening balance sheet value for loans to group companies is based on a forecast forward from APR181C Line 3 . AMP7 years are populated from the Ofwat financial model. As software has been treated as a Fixed Asset in the model the group loan represents the Intangible balance in the model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$84 to $P$84 The loan value does not change from APR 18 and remains constant through AMP7.
4	Investments ~ other	£m	Zero There are no other investments
5	Derivative financial instruments	£m	Not Applicable
6	Retirement benefit assets	£m	2019-20 = Opening Balance sheet

	LINE DESCRIPTION	Unit	Notes
			The opening balance sheet value for the pension credit is based on a forecast forward from APR18 1C line 6. The forecast shows a small increase in the asset value. AMP7 years are populated from the Ofwat financial model. =-+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$285 to $P$285 Bristol Water has a Pension Asset, this is expected to remain an asset throughout AMP7
7	Total non-current assets	£m	Calculated Cell
B	**Current liabilities ~ Notional company structure**		
8	Inventories	£m	Inventories are a relatively small number for Bristol Water that remains fairly stable over time. 2019-20 = Opening Balance sheet The opening balance sheet value for inventories is based on a forecast forward from APR18 1C line 8. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$273 to $P$273
9	Trade and other receivables	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb] FinStat_Appointee'!$K$274 to $P$274 Plus 'App14'!G11 (Wholesale creditors ~ residential retail) to net out the inter price control debtor/creditor balances. This follows the guidance provided in response to Query 342
10	Derivative financial instruments	£m	Not Applicable
11	Cash and cash equivalents	£m	Linked to Section B total cash and cash equivalents line 48. Bristol Water targets maintaining a cash balance above £10m.
12	Total current assets	£m	Calculated Cell
C	**Current liabilities ~ Notional company structure**		
13	Trade and other payables	£m	Populated from the Ofwat financial model. Includes dividend creditor =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$K$94 to $P$94

	LINE DESCRIPTION	Unit	Notes
			plus =-' [PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$K$281 to $P$281 Less 'App14'!G11 (Wholesale creditors ~ residential retail) to net out the inter price control debtor/creditor balances. This follows the guidance provided in response to Query 342
14	Capex creditor	£m	Linked to Section B total capex creditor line 44
15	Borrowings	£m	Zero Zero There are no borrowings due within one year during AMP7 Existing loans earliest maturity date is 2028-29
16	Derivative financial instruments	£m	Not Applicable
17	Current tax liabilities	£m	2019-20 = Opening Balance sheet The opening balance sheet value for current tax liabilities is based on a forecast forward from APR18 1C line 17, these are in line with position reported in APR18 taking into account changes to Tax rates and HMRC guidance. AMP7 years are populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$99 to $P$99
18	Provisions	£m	Populated from the Ofwat financial model. =-' [PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$K$286 to $P$286 Zero – the forecast does not project provisions. The provisions disclosed in APR18 1C line 18 represent the current portion of deferred income. All of the deferred income balance is included in line 26 in this table.
19	Total current liabilities	£m	Calculated Cell
D	**Net current assets and liabilities ~ Notional company structure**		
20	Net current assets and liabilities	£m	Calculated Cell

	LINE DESCRIPTION	Unit	Notes
E	**Non-current liabilities ~ Notional company structure**		
21	Trade and other payables	£m	Zero There are no trade or other payable liabilities greater than 1 years
22	Borrowings	£m	Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$K$282 to $P$282 Less Section C, Line 15 (current borrowing liabilities)
23	Derivative financial instruments	£m	Not Applicable
24	Retirement benefit obligations	£m	Zero – Pension is an Asset for Bristol Water and expected to remain so for AMP7.
25	Provisions	£m	Zero – the forecast does not project provisions
26	Deferred income ~ G&C's	£m	The opening balance sheet value Deferred Income is based on a forecast forward from APR18 1C line26, including the current portion that was disclosed in Provisions. The values have been forecasted in our Corporate Model based on the Grants & Contribution expected less the amortisation of the income. These values have been split out from the Retained Earnings balance taken from the Ofwat Financial Model (see line 37).
27	Deferred income ~ adopted assets	£m	Zero There are no adopted assets generating deferred income
28	Preference share capital	£m	='[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$K$283 to $P$283 This is zero under the Notionalised company structure.
29	Total non-current liabilities	£m	Calculated Cell
F	**Net assets before deferred tax ~ Notional company structure**		
30	Net assets before deferred tax	£m	Calculated cell
G	**Deferred tax ~ Notional company structure**		

	LINE DESCRIPTION	Unit	Notes
31	Deferred tax	£m	2019-20 = Opening Balance sheet The opening balance sheet value for Deferred Tax is based on a forecast forward from APR18 1C line 29, these are in line with position reported in APR18 taking into account changes to Tax rates and HMRC guidance. AMP7 years are populated from the Ofwat financial model. [PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$108 to $P$108
H	**Net assets ~ Notional company structure**		
32	Net assets	£m	Calculated Cell
I	**Equity ~ Notional company structure**		
33	Called up share capital (inc. any share premium)	£m	Linked from App16
34	Retained profits	£m	Linked to Wholesale Retail Split total field 40
35	Other reserves	£m	Other reserves consist of a capital redemption reserve and a hedging reserve. Both are based on our 2017-18 actuals and are assumed to remain constant in the forecast. In reality the hedging reserve would fluctuate, but this is difficult to forecast accurately. 2019-20 = Opening Balance sheet The values do not change from 2017-18 and remain constant through AMP7. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Appointee'!$L$113 to $P$113
36	Total equity	£m	Calculated Cell
J	**Wholesale and retail line item split ~ Notional company structure**		
37	Retained profits ~ wholesale	£m	2019-2020 Opening Balance sheet - Adjustments to Wholesale Retained Profits from App12

Wholesale O/B for Notionalised vs Actual	**2019-20**
Opening Actual Retained Profits Appointee	257.641
Plus Actual Borrowings	367.062
Less Notionalised Borrowings	(343.906)

LINE DESCRIPTION	Unit	Notes
		Preference Shares 12.500 Notional Opening Retained Profit 293.297 Change = Adjustment to Debt Structure (35.656) AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Wholesale'!$L$116 to $P$116 Less Section E, Line 26 Deferred Income
38	Retained profits ~ residential retail	£m	2019-20 = Opening Balance sheet The opening Retained Profits for Residential Retail is taken as the Net Assets from the 2019-20 balance sheet. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Residential'!$L$85 to $P$85
39	Retained profits ~ business retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Business'!$K$85 to $P$85 Zero as Bristol Water has exited the Business Retail market.
40	Retained profits	£m	Calculated cell
41	Capex creditor ~ wholesale	£m	2019-2020 = Opening Balance sheet The opening balance sheet value for the Capex Creditor is based on a forecast forward from APR18 1C line 14. AMP7 years are populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Wholesale'!$K$97 to $P$97
42	Capex creditor ~ residential retail	£m	Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Residential'!$K$82 to $P$82 For the opening balance sheet no Capex Creditor was allocated to the Residential Retail
43	Capex creditor ~ business retail	£m	Populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Business'!$K$82 to $P$82 Zero as Bristol Water has exited the Business Retail market.

	LINE DESCRIPTION	Unit	Notes
44	Capex creditor	£m	Calculated cell
45	Cash and cash equivalents ~ wholesale	£m	2019-20 = Opening Balance sheet The opening balance sheet value for the Cash is based on a forecast forward from APR18 1C line 11. AMP7 years are populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Wholesale'!$L$92 to $P$92
46	Cash and cash equivalents ~ residential retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Residential'!$K$75 to $P$75 For the opening balance sheet no cash was allocated to the Residential Retail
47	Cash and cash equivalents ~ business retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Business'!$K$75 to $P$75 Zero as Bristol Water has exited the Business Retail market.
48	Cash and cash equivalents	£m	Calculated cell

App13 - Trade receivables

All values on this table are stated at Nominal.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Retail**		
1	Residential retail unmeasured trade receivables ~ net	£m	
2	Residential retail measured trade receivables ~ net	£m	

Allocation of Debtors

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Unmeasured Debtor	5.482	5.774	5.608	5.434	5.269	5.107
Measured Debtor	5.295	5.321	5.686	6.036	6.400	6.732
Total	10.777	11.095	11.294	11.470	11.669	11.839

The totals of lines 1 and 2 reconciles to the Residential Retail debtor balance in the Ofwat financial model:
='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$K$447 to $P$94
The total balance has been split between unmeasured and measured via an offline calculation.
2019-20 Opening Balance
The allocation of the Residential Retail debtor balance between Unmeasured and Measured is based on the unmeasured and measured revenues and debtors days within the Ofwat financial model:
='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$L$387 to $P$388
='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$L$390 to $P$391
='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$L$403 to $P$404
A small unallocated difference results from this calculation which is then allocated proportionately across the balances.
The opening balance and debtor days are based on a forward projection of our actual debt position at 2017-18.

	LINE DESCRIPTION	Unit	Notes
3	Business customers / business retail unmeasured trade receivables ~ net	£m	Zero Bristol Water has exited the Retail Business market. Receivables for charges due from business retailers have been included within wholesale. We have followed the guidance from Query 32, "We consider that as the transaction is from the wholesaler to the retailer, it should be recorded as part of the wholesale trade receivables in lines 11 and 12" regarding the receivables related to the sale of water to the Business Retail provider.
4	Business customers / business retail measured trade receivables ~ net	£m	Zero Bristol Water has exited the Retail Business market. Receivables for charges due from business retailers have been included within wholesale. See Line 3
5	Retail other trade receivables ~ net	£m	Zero There are no "other" Retail trade receivables forecast for AMP7
6	Residential retail measured income accrual	£m	2019-20 Opening Balance This is based on our existing accrual rolled forward to become the opening balances for 2019-20 in the Ofwat financial model. AMP7 years are populated from the Ofwat financial model. ='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Retail'!$L$94 to $P$94
7	Business customers / business retail measured income accrual	£m	Zero Bristol Water has exited the Retail Business market. . Accrued income for charges due from business retailers has been included within wholesale.
8	Prepayments and accrued income ~ retail	£m	Zero There are no prepayments or accrued income forecast for AMP7
9	Corporation tax ~ retail	£m	Zero There is no retail Corporation Tax receivable expected in AMP7
10	Total retail trade	£m	Calculation

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td>receivables</td><td></td><td></td></tr>
<tr><td>B</td><td>Wholesale</td><td colspan="2"></td></tr>
<tr><td>11</td><td>Trade and other receivables ~ net</td><td>£m</td><td>2019-20 Opening Balance
This is based on our existing wholesale trade and other debtors rolled forward to become the opening balances for 2019-20 in the Ofwat financial model.
AMP7 years

<table><tr><th></th><th>2019-20</th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr><tr><td>Other Debtors</td><td>5.885</td><td>5.885</td><td>5.885</td><td>5.885</td><td>5.885</td><td>5.885</td></tr><tr><td>Trade debtors balance - WN - nominal</td><td>15.351</td><td>15.997</td><td>16.376</td><td>16.715</td><td>17.112</td><td>17.511</td></tr><tr><td>Trade debtors balance - WR - nominal</td><td>4.355</td><td>3.415</td><td>3.532</td><td>3.681</td><td>3.833</td><td>3.958</td></tr><tr><td></td><td>25.591</td><td>25.297</td><td>25.793</td><td>26.281</td><td>26.830</td><td>27.354</td></tr></table>
Other debtors are assumed to remain static in the model.
Trade Debtors are populated from the Ofwat financial model.
=+’ [PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Resources'!$L$574 to $P$574
Plus
=+’[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$L$574 to $P$574

The wholesale trade debtors from the market are effectively zero, given that although payment terms are 1.5 months, current credit terms mean that cash is overall paid to reflect forecast settlement.</td></tr>
<tr><td>12</td><td>Prepayments and accrued income ~ wholesale</td><td>£m</td><td>2019-20 Opening Balance & AMP7 years are based on our existing accrual rolled forward to become the opening balances for 2019-20 in the Ofwat financial model. These are assumed to remain static in the model.
<table><tr><th></th><th>2019-20</th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr><tr><td>Prepayments and Accrued Income</td><td>1.151</td><td>1.151</td><td>1.151</td><td>1.151</td><td>1.151</td><td>1.151</td></tr></table></td></tr>
<tr><td>13</td><td>Wholesale ~ corporation tax</td><td>£m</td><td>2019-20 Opening Balance
This is based on our current tax position at APR18 rolled forward to become the opening balances for</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
			2019-20 in the Ofwat financial model. AMP7 years are populated from the Ofwat financial model. =+' [PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Resources'!$L$576 to $P$576 Plus =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$L$576 to $P$576
14	Total wholesale trade receivables	£m	Calculation The sum of Lines 13 & 14 agree to App12 Line 9 (not Line 8 as suggested by the table guidance) less the adjustment to net out inter price control debtor and creditor balances as per App14 Line 4 Wholesale creditors ~ residential retail.
C	**Revenue**		
15	Residential retail unmeasured revenue (appointee)	£m	Linked Calculation
16	Residential retail measured revenue (appointee)	£m	Linked Calculation
17	Business customers / business retail unmeasured revenue (appointee)	£m	Linked Calculation
18	Business customers / business retail measured revenue (appointee)	£m	Linked Calculation
D	**Retail debtor days**		
19	Residential retail average trade debtors	days	Calculation

	LINE DESCRIPTION	Unit	Notes
	days		
20	Residential retail unmeasured trade debtors	days	Calculation
21	Residential retail measured trade debtors	days	Calculation
22	Business customers / business retail average trade debtors	days	Calculation
23	Business customers / business retail unmeasured trade debtors	days	Calculation
24	Business customers / business retail measured trade debtors	days	Calculation
E	**Measured income accrual rates**		
25	Residential retail measured income accrual rate	%	Calculation
26	Business customers / business retail measured income accrual rate	%	Calculation

App14 - Trade and other payables

All values on this table are stated at Nominal
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Trade and other payables**		
1	Wholesale trade payables	£m	Opening balances are based on our existing wholesale trade payables rolled forward to become the opening balances for 2019-20 in the Ofwat financial model, then populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Resources'!$K$665 to $P$665 Plus =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$K$665 to $P$665
2	Wholesale other payables	£m	Opening balances are based on our existing wholesale other payables rolled forward to become the opening balances for 2019-20 in the Ofwat financial model, then populated from the Ofwat financial model. =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Resources'!$K$666 to $P$666 Plus =-'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$K$666 to $P$666
3	Retail trade and other payables	£m	Calculated Cell
4	Wholesale creditors ~	£m	Opening balances are based on our existing wholesale residential retail creditors rolled forward

	LINE DESCRIPTION	Unit	Notes
	residential retail		to become the opening balances for 2019-20 in the Ofwat financial model, then populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$K$539 to $P$539
5	Wholesale creditors ~ business retail	£m	Zero Bristol Water has exited the Business Retail market
6	Retail trade payables	£m	Zero Small balance in 2017-18 relating to retailers collateral and income disputes. Not expected to materially change in AMP7.
7	Retail other payables	£m	Zero No balance forecast for AMP7.
8	Residential retail unmeasured advance receipts	£m	Opening balances are based on our existing residential retail unmeasured advance receipts rolled forward to become the opening balances for 2019-20 in the Ofwat financial model, then populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Retail'!$K$100 to !$P$100
9	Residential retail measured advance receipts	£m	Opening balances are based on our existing residential retail measured advance receipts rolled forward to become the opening balances for 2019-20 in the Ofwat financial model, then populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]FinStat_Retail'!$K$101 to $P$101
10	Business customers / business retail unmeasured advance receipts	£m	Zero Bristol Water has exited the Business Retail market. A small amount (c. £0.1m) of advance receipts from business retailers is included in line 1, based on the small number of retailers who currently prepay the wholesale charges.
11	Business customers / business retail	£m	Zero Bristol Water has exited the Business Retail market. A small amount (c. £0.1m) of advance

	LINE DESCRIPTION	Unit	Notes
	measured advance receipts		receipts from business retailers is included in line 1, based on the small number of retailers who currently prepay the wholesale charges.
12	Preference shares	£m	Linked Calculation
13	Dividend creditors	£m	Linked Calculation
14	Total trade and other payables	£m	Calculated Cell "Should equal sum of current liabilities in line 13 of App12" Line 14 less Line 4 Wholesale creditors ~ residential retail (netting out of inter price control debtors & creditors balances) & Line 13 Dividend Creditor & Line 12 Preference Shares equals App12 Line 13
B	**Wholesale**		
15	Trade creditor days ~ water resources	days	Trade creditor days input into the model are based on our historic creditor days, these are assumed to remain constant throughout the AMP and is the same value for both Wholesale Water Resources and Water Network.
16	Trade creditor days ~ water network plus	days	Trade creditor days input into the model are based on our historic creditor days, these are assumed to remain constant throughout the AMP and is the same value for both Wholesale Water Resources and Water Network.
17	Trade creditor days ~ wastewater network plus	days	Not applicable to Bristol Water
18	Trade creditor days ~ bio resources	days	Not applicable to Bristol Water
19	Trade creditor days ~ dummy control	days	Not applicable to Bristol Water
20	Capex creditor days ~ wholesale	days	Capex creditor days input into the model are based on our historic creditor days, these are assumed to remain constant throughout the AMP.
C	**Retail**		
21	Residential retail advance receipts	days	Linked Calculation

	LINE DESCRIPTION	Unit	Notes
	creditor days unmeasured		
22	Residential retail advance receipts creditor days measured	days	Linked Calculation
23	Business customers / business retail advance receipts creditor days unmeasured	days	Linked Calculation
24	Business customers / business retail advance receipts creditor days measured	days	Linked Calculation
25	Retail creditor months: Payment terms ~ Residential retail pays wholesaler in arrears (advance)	Months	Retail creditor months input into the model are based on our historic creditor months, these are assumed to remain constant throughout the AMP.
26	Retail creditor months: Payment terms ~ Business retail pays wholesaler in arrears (advance)	Months	Zero The Ofwat response to Query 342 suggests we should have a Business Retail creditor months of 1.5 months but continues "Companies should enter expected credit terms in these cells and provide commentary if they adopt an alternative assumption" . In practice we have an accrual at month end and then bill immediately after month end, receiving payment prior to month end and thus do not have a month end balance. In reality this masks a 1.5 month credit from the consumption of water. In month 1 the water is consumed at an even rate and accrued, in month 2 the bill is raised and paid by the month end giving an effective 1.5 months of consumption credit, but not in accounting terms as a debtor.

	LINE DESCRIPTION	Unit	Notes
D	**Dividend creditors wholesale retail split**		
27	Dividend creditors ~ wholesale	£m	Zero As shown in App18 the Bristol Water dividend policy is to pay the dividend within the financial year it arises and thus there is no yearend dividend creditor
28	Dividend creditors ~ residential retail	£m	Zero As shown in App18 the Bristol Water dividend policy is to pay the dividend within the financial year it arises and thus there is no yearend dividend creditor
29	Dividend creditors ~ business retail	£m	Zero Bristol Water has exited the Business Retail market
30	Dividend creditors	£m	Calculated Cell

App15 - Cashflow based on the actual company structure

All values on this table are stated at nominal prices
All the values included in this table are generated from the Ofwat financial modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Operating profit ~ actual company structure</td></tr>
<tr><td>1</td><td>Operating profit</td><td>£m</td><td>Linked from App11</td></tr>
<tr><td>2</td><td>Other income</td><td>£m</td><td>Linked from App11</td></tr>
<tr><td>B</td><td colspan="3">Adjustments ~ actual company structure</td></tr>
<tr><td>3</td><td>Depreciation</td><td>£m</td><td>Linked from App11.
Bristol Water includes contributions within fixed assets, and therefore the amortisation is an offset to the depreciation charge. In line with RAG4.07, we have adjusted the depreciation charge to show the amortisation of contributions within Other Income (App11 Line 7).
Populated from the Ofwat Financial Model as per the mapping tool
=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$215 to $P$215
less
The Amortisation of deferred income shown below
<table><tr><th></th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr><tr><td>Amortisation of deferred income</td><td>1.839</td><td>1.800</td><td>1.748</td><td>1.630</td><td>1.422</td></tr></table></td></tr>
<tr><td>4</td><td>Amortisation</td><td>£m</td><td>Linked from App11.
Zero
The amortisation of intangible fixed assets (such as software) is included within line 3 as the Ofwat financial model does not amortise intangible fixed assets.
Amortisation of deferred income is included in App11 Line 7 (Other income) in line with RAG4.07.</td></tr>
<tr><td>5</td><td>Changes in working</td><td>£m</td><td>Populated from the Ofwat Financial Model as per the mapping tool</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
	capital ~ Inventories, trade and other receivables		=+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$237 to $P$237
6	Changes in working capital ~ Trade and other payables	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$238 to $P$238 The reduction between 2020 and 2021 contains falling bills.
7	Changes in retirement benefits scheme provision	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$239 to $P$239
8	Changes in provisions	£m	Calculated Cell
C	**Cash generated from operations ~ actual company structure**		
9	Cash generated from operations	£m	Calculated Cell
D	**Interest and tax ~ actual company structure**		
10	Net interest paid	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$245 to $P$245
11	Tax paid	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$246 to $P$246
E	**Net cash generated from operating activities ~ actual company structure**		
12	Net cash generated from operating activities	£m	Calculated Cell
F	**Investing activities (net of grants and contributions) ~ actual company structure**		
13	Net capex	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$250 to $P$250
14	Investment in other non-current assets	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$251 to $P$251
15	Net cash used in investing activities	£m	Calculated Cell

	LINE DESCRIPTION	Unit	Notes
G	**Net cash generated before financing activities ~ actual company structure**		
16	Net cash generated before financing activities	£m	Calculated Cell
H	**Cash flows from financing activities ~ actual company structure**		
17	Equity dividends paid	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$257 to $P$257
18	Net loans received	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$259 to $P$259
19	Cash inflow from equity financing	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]F_Outputs'!$L$258 to $P$258
20	Net cash generated from financing activities	£m	Calculated Cell
I	**Increase or decrease in net cash ~ actual company structure**		
21	Increase or decrease in net cash	£m	Calculated Cell Net decrease in cash as per App15 is different to the value calculated by the Ofwat Model by the value of the adjustment to treat the Amortisation of Deferred income as Other Income as per RAGs.

Increase or decrease in net cash ~ actual structure	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Increase or decrease in net cash	-0.453	1.716	1.430	2.343	1.350
Ofwat Model					
Increase / (decrease) in cash - Appointee - nominal	(2.294)	(0.083)	(0.318)	0.711	(0.071)
Difference App15 to Ofwat Financial Model	**(1.841)**	**(1.799)**	**(1.748)**	**(1.632)**	**(1.421)**
Difference = Amortisation of deferred income adjustment from App11	(1.839)	(1.800)	(1.748)	(1.630)	(1.422)

App15a - Cashflow based on a notional company structure

All values on this table are stated at nominal prices.
All the values included in this table are generated from the Ofwat financial modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Operating profit ~ Notional company structure**		
1	Operating profit	£m	Linked from App11a
2	Other income	£m	Linked from App11a
B	**Adjustments ~ Notional company structure**		
3	Depreciation	£m	Linked from App11a Bristol Water includes contributions within fixed assets, and therefore the amortisation is an offset to the depreciation charge. In line with RAG4.07, we have adjusted the depreciation charge to show the amortisation of contributions within Other Income (App11a Line 7). Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.LD6C001001_NOTIONAL.xlsb]F_Outputs'!$L$215 to $P$215 less The Amortisation of deferred income shown below
4	Amortisation	£m	Zero The amortisation of intangible fixed assets (such as software) is included within line 3 as the Ofwat financial model does not amortise intangible fixed assets. Amortisation of deferred income is included in App11a Line 7 (Other income) in line with RAG4.07.
5	Changes in working capital ~Inventories, trade and other receivables	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$237 to $P$237

	2020-21	2021-22	2022-23	2023-24	2024-25
Amortisation of deferred income	1.839	1.800	1.748	1.630	1.422

	LINE DESCRIPTION	Unit	Notes
6	Changes in working capital ~ Trade and other payables	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$238 to $P$238
7	Changes in retirement benefits scheme provision	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$239 to $P$239
8	Changes in provisions	£m	Calculated Cell
C	**Cash generated from operations ~ Notional company structure**		
9	Cash generated from operations	£m	Calculated Cell
D	**Interest and tax ~ Notional company structure**		
10	Net interest paid	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$245 to $P$245
11	Tax paid	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$246 to $P$246
E	**Net cash generated from operating activities ~ actual company structure**		
12	Net cash generated from operating activities	£m	Calculated Cell
F	**Investing activities (net of grants and contributions) ~ actual company structure**		
13	Net capex	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$250 to $P$250
14	Investment in other non-current assets	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$251 to $P$251
15	Net cash used in investing activities	£m	Calculated Cell
G	**Net cash generated before financing activities ~ Notional company structure**		
16	Net cash generated before financing activities	£m	Calculated Cell

	LINE DESCRIPTION	Unit	Notes
H	**Cash flows from financing activities ~ Notional company structure**		
17	Equity dividends paid	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$257 to $P$257
18	Net loans received	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$259 to $P$259
19	Cash inflow from equity financing	£m	Populated from the Ofwat Financial Model as per the mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]F_Outputs'!$L$258 to $P$258
20	Net cash generated from financing activities	£m	Calculated Cell
I	**Increase or decrease in net cash ~ Notional company structure**		
21	Increase or decrease in net cash	£m	Calculated Cell Net decrease in cash as per App15 is different to the value calculated by the Ofwat Model by the value of the adjustment to treat the Amortisation of Deferred income as Other Income as per RAGs.

Increase or decrease in net cash ~ notional structure	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Increase or decrease in net cash	-2.887	1.599	1.597	1.737	1.961
Ofwat Model					
Increase / (decrease) in cash - Appointee - nominal	(4.727)	(0.200)	(0.151)	0.105	0.539
Difference App15a to Ofwat Financial Model	**(1.840)**	**(1.799)**	**(1.748)**	**(1.632)**	**(1.422)**
Difference = Amortisation of deferred income adjustment from App11a	(1.839)	(1.800)	(1.748)	(1.630)	(1.422)

App16 - Tangible fixed assets

All values in this table are stated at nominal prices.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

The closing fixed asset costs and accumulated depreciation for 2019-20 are based on the roll forward of the 2017-18 Assets and the impact of the capital budgets for 2018-19 and 2019-20. 95% of these assets have been allocated on an absolute basis to Water Resources or Water Network. The residual 5% being General Assets have been allocated approximately 80% to Water Network, 10% to Water Resources and 10% to Retail.

	LINE DESCRIPTION	Unit	Notes
A	**Fixed asset cost at 31 March**		
1	Fixed asset cost at 31 March ~ wholesale water resources	£m	Closing balances 2019-20 as detailed above. Software has been treated as a Fixed Asset in the model and is included in this balance. AMP7 Years Calculated Cell
2	Fixed asset cost at 31 March ~ wholesale water network plus	£m	Closing balances 2019-20 as detailed above. AMP7 Years Calculated Cell
3	Fixed asset cost at 31 March ~ wholesale wastewater network plus	£m	Not Applicable to Bristol Water
4	Fixed asset cost at 31 March ~ wholesale bioresources	£m	Not Applicable to Bristol Water
5	Fixed asset cost at 31 March ~ wholesale dummy control	£m	Not Applicable to Bristol Water

	LINE DESCRIPTION	Unit	Notes
6	Fixed asset cost at 31 March ~ residential retail	£m	Closing balances 2019-20 as detailed above. The Retail Assets are 100% allocated to Residential and are approximately a 10% allocation of the General business assets. The opening balance is a roll forward from APR18. AMP7 Years Calculated Cell
7	Fixed asset cost at 31 March ~ business retail	£m	Zero Bristol Water has exited the Business Retail market. There are no Fixed Assets associated to Retail Business Retail in AMP7.
8	Total fixed asset cost at 31 March	£m	Calculated Cell
B	**Fixed asset additions in the year**		
9	Fixed asset additions in the year ~ wholesale water resources	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Resources'!$L$1156 to $P$1156
10	Fixed asset additions in the year ~ wholesale water network plus	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$L$1156 to $P$1156
11	Fixed asset additions in the year ~ wholesale wastewater network plus	£m	Not Applicable to Bristol Water
12	Fixed asset additions in the year ~ wholesale bioresources	£m	Not Applicable to Bristol Water
13	Fixed asset additions in the year ~ wholesale dummy control	£m	Not Applicable to Bristol Water
14	Fixed asset additions in the year ~ residential retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$L$669 to

	LINE DESCRIPTION	Unit	Notes
			$P$669
15	Fixed asset additions in the year ~ business retail	£m	Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Business'!$L$802 to $$669 Zero as Bristol Water have exited Business Retail
16	Total fixed asset additions in the year	£m	Calculated Cell
C	**Fixed asset disposals in the year at cost**		
17	Fixed asset disposals in the year at cost ~ wholesale water resources	£m	Zero No disposals are planned for AMP7
18	Fixed asset disposals in the year at cost ~ wholesale water network plus	£m	Zero No disposals are planned for AMP7
19	Fixed asset disposals in the year at cost ~ wholesale wastewater network plus	£m	Not Applicable to Bristol Water
20	Fixed asset disposals in the year at cost ~ wholesale bioresources	£m	Not Applicable to Bristol Water
21	Fixed asset disposals in the year at cost ~ wholesale dummy control	£m	Not Applicable to Bristol Water
22	Fixed asset disposals in the year at cost ~ residential retail	£m	Zero No disposals are planned for AMP7
23	Fixed asset disposals in the year at cost ~ business	£m	Zero Bristol Water have exited Business Retail market

	LINE DESCRIPTION	Unit	Notes
	retail		
24	Total fixed asset disposals in the year at cost	£m	Calculated Cell
D	**Fixed asset accumulated depreciation at 31 March**		
25	Fixed asset accumulated depreciation at 31 March ~ wholesale water resources	£m	Closing balances 2019-20 as detailed above. AMP7 Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Resources'!$L$1171 to $P$1171 The depreciation charge for the year plus the accumulated depreciation from the Prior Year
26	Fixed asset accumulated depreciation at 31 March ~ wholesale water network plus	£m	Closing balances 2019-20 as detailed above. AMP7 Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!$L$1171 to $P$1171 The depreciation charge for the year plus the accumulated depreciation from the Prior Year
27	Fixed asset accumulated depreciation at 31 March ~ wholesale wastewater network plus	£m	Not Applicable to Bristol Water
28	Fixed asset accumulated depreciation at 31 March ~ wholesale bioresources	£m	Not Applicable to Bristol Water
29	Fixed asset accumulated depreciation at 31 March ~ wholesale dummy control	£m	Not Applicable to Bristol Water
30	Fixed asset accumulated depreciation at 31 March ~ residential retail	£m	Closing balances 2019-20 as detailed above. AMP7 Populated from the Ofwat financial model. =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Retail_Residential'!$L$660 to

	LINE DESCRIPTION	Unit	Notes
			$P$660 The depreciation charge for the year plus the accumulated depreciation from the Prior Year
31	Fixed asset accumulated depreciation at 31 March ~ business retail	£m	Zero Bristol Water have exited Business Retail market
32	Total fixed asset accumulated depreciation at 31 March	£m	Calculated Cell
E	**Fixed asset net book value at 31 March**		
33	Fixed asset net book value at 31 March ~ wholesale water resources	£m	Calculated Cell
34	Fixed asset net book value at 31 March ~ wholesale water network plus	£m	Calculated Cell
35	Fixed asset net book value at 31 March ~ wholesale wastewater network plus	£m	Calculated Cell
36	Fixed asset net book value at 31 March ~ wholesale bioresources	£m	Calculated Cell
37	Fixed asset net book value at 31 March ~ wholesale dummy	£m	Calculated Cell

	LINE DESCRIPTION	Unit	Notes
	control		
38	Fixed asset net book value at 31 March ~ residential retail	£m	Calculated Cell
39	Fixed asset net book value at 31 March ~ business retail	£m	Calculated Cell
40	Total fixed asset net book value at 31 March	£m	Calculated Cell
F	**Average asset lives for all fixed assets ~ legacy assets plus new additions**		
41	Average asset lives for all fixed assets ~ wholesale water resources	Years	Our average asset lives have been calculated from our detailed depreciation forecasts for AMP7. The average asset life for each year has been calculated by dividing the forecast annual deprecation by the accumulated asset cost to derive the effective rate for the year which is then converted into years. The AMP7 average is the average of the average asset life for each year.
42	Average asset lives for all fixed assets ~ wholesale water network plus	Years	See Line 41
43	Average asset lives for all fixed assets ~ wholesale wastewater network plus	Years	Not Applicable to Bristol Water
44	Average asset lives for all fixed assets ~ wholesale bioresources	Years	Not Applicable to Bristol Water
45	Average asset lives for	Years	Not Applicable to Bristol Water

	LINE DESCRIPTION	Unit	Notes
	all fixed assets ~ wholesale dummy control		
46	Average asset lives for all fixed assets ~ residential retail	Years	
47	Average asset lives for all fixed assets ~ business retail	Years	Not Applicable as Bristol Water have exited Business Retail The table shows a validation error but we believe it would be misleading to show an asset life of 0 years.
48	Total average asset lives for all fixed assets ~ legacy assets plus new additions	Years	Weighted Average calculation

Average asset life calculation

	Net Assets £m's	Average Life
Wholesale water resources	49.8	25
Wholesale water network plus	624.8	38
Residential retail	3.2	7
Total	677.8	37

App17 - Appointee revenue summary

Table is based on a Notional capital structure.
All values on this table are stated at 2017-2018 FYA (CPIH deflated).
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Section**		
1	PAYG	£m	Linked Calculation
2	Pension deficit repair contributions	£m	Linked Calculation
3	Run off on post 2020 investment and totex additions	£m	Linked Calculation
4	Return on post 2020 investment and totex additions to RCV	£m	Linked Calculation
5	Run off on RPI inflated 2020 RCV	£m	Linked Calculation
6	Return on RPI inflated 2020 RCV	£m	Linked Calculation
7	Run off on CPIH inflated 2020 RCV	£m	Linked Calculation
8	Return on CPIH inflated 2020 RCV	£m	Linked Calculation
9	Current tax ~ wholesale service	£m	Linked Calculation
10	Re-profiling of allowed	£m	Linked Calculation

	LINE DESCRIPTION	Unit	Notes
	revenue		
11	PR14 reconciliation adjustments ~ revenue	£m	Linked Calculation
12	Total wholesale revenue requirement	£m	Calculated Cell
B	**Wholesale ~ other price control income**		
13	Third party revenue	£m	Linked Calculation
C	**Wholesale non-price control income (third party services)**		
14	Bulk supplies	£m	Linked Calculation
15	Bulk supplies ~ contract qualifying for water and wastewater trading incentives (to be signed on or after 1 April 2020)	£m	Linked Calculation
16	Rechargeable works	£m	Linked Calculation
17	Other non-price control third party services	£m	Linked Calculation
18	Total non-price control income (third party services)	£m	Calculated Cell
D	**Wholesale non-price control income (principal services)**		
19	Wholesale non-price control income (principal services)	£m	Linked Calculation
E	**Wholesale charges**		
20	Wholesale unmeasured charge ~ residential		Linked Calculation

	LINE DESCRIPTION	Unit	Notes
21	Wholesale unmeasured charge ~ business	£m	Linked Calculation
22	Wholesale measured charge ~ residential	£m	Linked Calculation
23	Wholesale measured charge ~ business	£m	Linked Calculation
24	Total wholesale charges	£m	Linked Calculation
F	**Grants & contributions**		
25	Wholesale grants and contributions (price control)	£m	Linked Calculation
26	Wholesale grants and contributions (non-price control)	£m	Linked Calculation
G	**Revenue control total ~ wholesale**		
27	Total revenue control ~ wholesale	£m	Calculated Cell
H	**Revenue control total ~ retail**		
28	Total revenue control ~ retail	£m	Linked Calculation
I	**Revenue control total ~ appointee**		
29	Total revenue control ~ appointee	£m	Calculated Cell The total appointee revenue has been reconciled to the revenue in App7

App18 - Share capital and dividends

All values on this table are stated at nominal prices.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Section header**		
1	Nominal share value	£	2019-20 = Opening Balance sheet The opening balance sheet is based on a forecast forward from APR18 The nominal share value of £1 per ordinary share does not change from 2017-18 and remains constant through AMP7. AMP7 years are populated from the Ofwat financial model. ='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Wholesale Global'!$L$339 to $P$339
2	Closing number of ordinary shares	m	2019-20 = Opening Balance sheet The opening balance sheet is based on a forecast forward from APR18 The number of ordinary shares does not change from 2017-18 and remains constant through AMP7. AMP7 years are populated from the Ofwat financial model. ='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Wholesale Global'!$L$341 to $P$341
3	Closing equity share value	£m	Calculated Cell
4	Number of ordinary shares issued in the year	m	Zero No equity financing is anticipated during AMP7
5	Share premium	£m	2019-20 = Opening Balance sheet The opening balance sheet is based on a forecast forward from APR18 The values do not change from 2017-18 and remain constant through AMP7.

	LINE DESCRIPTION	Unit	Notes
			AMP7 years are populated from the Ofwat financial model. ='[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Wholesale Global'!$L$340 to $P$340
6	Total called up share capital and share premium	£m	Calculated Cell
B	**Equity dividends**		
7	Special ordinary dividend declared per share	£	Zero No special dividends are anticipated
8	Ordinary dividend	£m	2019-20 The PR14 plan anticipated a dividend based on Method 1, the forecast forward from APR18 indicates that the Dividend payable will be lower and we have shown in Line 8 the dividend Bristol Water expect to pay. AMP7 – The rest of Line 8 is not applicable to Bristol Water, Lines 9 & 10 are populated as our policy is to use Method 1 the growth method. The validation error is inconsistent with the guidance for completion of the table. The guidance advises which lines to complete depending on the company policy but validation is set on every line and returns an error if the line is not completed
9	Dividend yield	%	2019-20 – Not populated, see Line 8 AMP7 Method 1 the growth method used The Bristol Water stated Dividend policy is for a 3.2% annual yield. The justification for the dividend yield and growth rate is set out in section C6. The validation error is warning that the line is not fully completed.
10	Real dividend growth	%	2019-20 – Not populated, see Line 8 AMP7 Method 1 the growth method used The Bristol Water stated Dividend policy is for a 1.3% p.a. real growth. The justification for the dividend yield and growth rate is set out in section C6. The validation error is warning that the line is not fully completed.

	LINE DESCRIPTION	Unit	Notes
11	Percentage of profits distributed	%	Not applicable as method 1 used. The validation error is inconsistent with the guidance for completion of the table. The guidance advises which lines to complete depending on the company policy but validation is set on every line and returns an error if the line is not completed
12	Interim dividends	£m	Not applicable line 13 populated The validation error is inconsistent with the guidance for completion of the table which states line 12 or 13 should be used
13	% of ordinary dividend paid as interim dividend	%	The Bristol Water Dividend policy is to pay the annual dividend within the financial year.
14	% of dividends issued as scrip shares	%	Zero No scrip dividends are anticipated
C	**Preference shares**		
15	Preference shares	£m	2019-20 The opening balance sheet is based on a forecast forward from APR18 The value of preference shares does not change from 2017-18 and remains constant through AMP7. The APM7 years are a calculation
16	Preference shares issued in the year	£m	Preference shares remain constant through AMP7.
17	Preference shares repaid in the year	£m	Preference shares remain constant through AMP7.
18	Preference share dividends paid	£m	Off-Line Calculation

Preference Share Dividend	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Preference Share Value £m	12.500	12.500	12.500	12.500	12.500	12.500
Dividend %	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%
Preference Dividend £m	1.094	1.094	1.094	1.094	1.094	1.094

App19 - Debt and interest costs

All values on this table are stated at nominal prices
All the values included in this table populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the whole company (both wholesale and retail).

	LINE DESCRIPTION	Unit	Notes
A	**Equity Shares**		
1	Fixed rate debt (opening)	£m	2019-20 The opening balance sheet is based on a forecast forward from APR18, based on the current Fixed Rate Debt facilities. AMP7 years are calculated by the table
2	Floating rate debt (opening)	£m	2019-20 The opening balance sheet is based on a forecast forward from APR18, based on the current Floating Rate Debt facilities. AMP7 years are calculated by the table
3	Index-linked debt (opening)	£m	2019-20 The opening balance sheet is based on a forecast forward from APR18, based on the current Index-linked Debt facilities. AMP7 years are calculated by the table
4	Fixed rate debt issued	£m	Zero It is not anticipated that Bristol will enter into any new Fixed Rate Debt agreements during AMP7
5	Floating rate debt issued	£m	2019-20 Issued floating debt is based on a forecast forward from APR18, using Floating debt facilities to maintain the Bristol Water minimum cash level of c. £10m. Additional borrowing requirements for AMP have been derived from using the model to estimate the annual cash and in line with Bristol Water policy Floating Debt has been added, to the nearest million, to maintain the cash level of c. £10m .
6	Index-linked debt issued	£m	Zero

	LINE DESCRIPTION	Unit	Notes
			It is not anticipated that Bristol will enter into any new Index-linked Rate Debt agreements during 2019-20 or during AMP7
7	Fixed rate debt repaid	£m	Fixed Debt repayments in 2019-20 and during AMP7 are the ongoing repayment of capitalised finance leases.
8	Floating rate debt repaid	£m	For 2019-20 Includes repayment of £7.3M of overnight borrowing from the 31st March 2018. During AMP7 none of the Floating Debt facilities are due and no repayments are anticipated. Therefore all the interest rates below are based on the existing facility rates, with the assumption these do not change (as the facilities are linked to LIBOR).
9	Index linked debt repaid	£m	For 2019-20 & during AMP7 none of the Index-linked Debt facilities are due and no repayments are anticipated.
10	Indexation of index-linked loans	£m	2019-20 Indexation is based on a forecast forward from APR18, based on the current Index-linked Debt facilities. AMP7 years are populated from the Ofwat financial model, the indexation rate is taken from App23 Line 27 =+'[PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb]Water Network'!L1362 to P1362 plus +'[PR19-14h-for-publication.BRL.LD8..001.001_ACTUAL.xlsb]Water Resources'!L1362 to P1362
B	**Interest rates and financing costs**		
11	Interest rate for existing fixed rate debt	%	The cash interest rate is a weighted average calculation of all the fixed rate debt anticipated in each year. These are the existing rates set out in table App20.
12	Interest rate for new fixed rate debt	%	No new fixed rate debt is anticipated – all future borrowings assumed to be floating debt.
13	Interest rate for existing index-linked debt	%	The cash interest rate is a weighted average calculation of all the index-linked rate debt anticipated in each year. These are the existing rates set out in table App20.
14	Interest rate for new index-linked debt	%	No new index-linked debt is anticipated – all future borrowings assumed to be floating debt.
15	Weighted interest rate	%	The cash interest rate is a weighted average calculation of all the fixed rate debt anticipated in each year.

	LINE DESCRIPTION	Unit	Notes
	for new and existing fixed rate debt		
16	Weighted interest rate for new and existing index-linked debt	%	The cash interest rate is a weighted average calculation of all the index-linked rate debt anticipated in each year.
17	Floating rate debt interest paid	£m	The interest payable has been calculated from the floating rate debt anticipated in each year. This increases throughout AMP7 as the Floating debt increases due to additional borrowings. The new borrowings are drawdowns of existing facilities.
18	Bank interest rate (receivable)	%	The base rate at the time of compiling the plan and assumes this does not change
19	Interest receivable (other)	£m	Zero There is no other material interest receivable assumed within the plan.
20	Bank overdraft interest rate	%	The current bank rate and we do not anticipate this to change
21	Residential retail working capital financing cost rate	%	The current bank rate is used for retail working capital and we do not anticipate this to change
22	Business retail working capital financing cost rate	%	Zero Business Retail exited by Bristol Water The table shows a validation error but we believe it would be misleading to show an interest of 0%
C	**Adjustments for reconciliation with balance sheet**		
23	Fixed rate debt adjustment for reconciliation with balance sheet	%	No adjustment required to align to Balance sheet debt in App12 – all debt is reported using nominal values in our statutory accounts and APR.
24	Floating rate debt adjustment for	%	No adjustment required to align to Balance sheet debt in App12 – all debt is reported using nominal values in our statutory accounts and APR.

	LINE DESCRIPTION	Unit	Notes
	reconciliation with balance sheet		
25	Index-linked debt adjustment for reconciliation with balance sheet	%	No adjustment required to align to Balance sheet debt in App12 – all debt is reported using nominal values in our statutory accounts and APR.
26	Other adjustment for reconciliation with balance sheet	%	No adjustment required to align to Balance sheet debt in App12 – all debt is reported using nominal values in our statutory accounts and APR.

App20 - Cost of debt / analysis of debt as at 31 March 2018

Validation.

The information in this table is consistent with table 1E of the Annual Performance Report, subject to the observations below. The total of line 805 in column K (£336.201m) agrees with total borrowings (including preference shares) in line 1E.3 of table 1E. This represents the principal sum outstanding as at 31 March 2018, excluding unamortised debt issue costs.

Indicative average weighted average cash interest.
Table 1E excludes commitment fees on unutilised facilities and table App20 includes them (based on the annual cost of the commitment fees of the unutilised facilities as at 31 March 2018).

Indicative weighted average nominal interest.
Table 1E includes the actual indexation on the index linked loans. Table App20 includes an assumed figure of 3.00% provided by Ofwat.

Weighted average years to maturity.
Table 1E excludes preference shares in this calculation and table App20 includes preference shares. (In table 1E the weighted average years to maturity is calculated over the headings of fixed, floating and index linked. The preference shares are then shown separately in the total column and not under any of these headings).
The total of column V agrees with the total of lines 15, 22, and 28 in table 1C.

Financial risk management.

The Company's practice is to maintain the majority of its net debt on a fixed rate or a fixed margin above movements in RPI basis. At the year-end 34% of the Company's gross financial liabilities were at fixed rates. 90% of the Company's gross financial liabilities were at fixed or index-linked rates. The residual were at floating rates.

Interest rate swap.

The company is a party to an interest rate swap to hedge £50m of existing variable rate borrowings. The swap exchanges 3 month Libor for a fixed rate of 1.50%. This swap expires on 29th November 2019. The fixed and floating legs of the swap are identified as hedging instruments in column H. The loan to which it relates is identified as hedged items in column H.

Hedged item.

The loan which is hedged by the interest rate swap is the £50m RBS loan (line 202). The margin on this loan is 0.90%. The interest rate for the payable leg of the associated swap is 1.50% (line 7). Adding the margin to the payable leg of the swap gives an all-in rate of 2.40% for this loan. These interest rates agree with the Annual Report. The interest rate payable on the £50m RBS loan, 0.59% (line 202) matches with the receivable leg of the associated swap (line 203).

Forward starting interest rate swap.

The company is party to a forward starting interest rate swap to hedge expected future borrowings. The effective date of the swap is 24 April 2018 and the swap will expire on 24 March 2020. The initial notional value of the swap is £25m, increasing in stages to a final notional value of £67.5m. The company will pay a fixed rate of 0.93% and in exchange receive 1 month Libor. With regard to the receivable leg, the 1 month Libor rate as at 31 March 2018 has been used.

Revolving credit facilities.

As required by the guidance, the company has reported its revolving credit facilities in the table. The company has four revolving credit facilities (of which three are partially drawn and one is undrawn) amounting to £95m. As at 31 March 2018, the amount drawn under the facilities is £29.9m, and the amount undrawn is £65.1m. The undrawn amounts are shown in column L in the table. It is necessary to hold such available facilities at a level commensurate with the maintenance of an investment grade credit rating. The facilities are variable rate, based on Libor.

Fair value of debt.

The fair value of debt is shown in column W. In the case of bank and other loans the fair value is calculated by discounting future cash flows at the market interest rates for those financial instruments. The fair value of debentures has been calculated by discounting the expected cash flows at market rates including an estimated margin over gilts. Fixed rate loans from Artesian Finance 2 plc have been discounted by reference to the UK Government fixed rate gilt 2032 plus an estimated margin. Index linked loans from Artesian Finance plc have been discounted by reference to the UK Government index linked gilt 2030 plus an estimated margin. The Index linked bond has been discounted by reference to the UK Government index linked gilt 2040 plus an estimated margin. The company's preference shares are listed on the London Stock Exchange and their fair value is based on their quoted market price.

Inflation assumption.

The assumption used for RPI is 3.0%. This has been provided by Ofwat and is the long term RPI rate that Ofwat have assumed for their final methodology.

App21 - Direct Procurement for Customers

- As per Ofwat's definition of large-scale enhancement projects that are expected to cost over £100 million based on whole-life totex.

- Following an assessment of proposed AMP7 interventions/solutions using the Asset Investment Dashboard, August 2018 (this lists Lockdown 6 proposed interventions/solutions by Capex cost value); Bristol Water does not have any large-scale enhancement projects that are expected to cost over £100 million, based on whole-life totex.

- Therefore, Bristol Water will be submitting a zero return for proposed AMP7 projects to be captured under DPC.

- However, this approach will be kept under review and if a DPC approach is identified that could bring benefits of affordability, efficiency to our customers, then this will be a material consideration in our allocation of contracts beyond AMP7.

App22 - Pensions

All values on this table are stated in Outturn costs for Historic/AMP6 and 2017-18 Financial Year Average (FYA) in consumer price inflation including owner-occupiers' housing costs (CPIH) deflated cost as requested for AMP7

	LINE DESCRIPTION	Unit	Notes
A	**Accounting charge included in regulatory accounts for Defined Benefit schemes**		
1	Charge for DB schemes ~ residential retail	£m	**2012/13 to 2017/18** The charges are extracted from Lane Clarke Peacock's (pension administrator) reports. An apportionment to capital has been made by pro-rating in accordance with the operating cost note in the statutory accounts. The pro rating does not apply to the past service cost or the running cost of the defined benefit scheme. The opex element is then allocated to the price controls using the allocations applied in the cost The "scheme running costs" for 2016 to 2018 have been removed as these would be admin fees. Prior to 2016 these were not separately identified by LCP. **2015/16 Credit** During 2015/16, Bristol Water closed its two sections of the Water Company Pension Scheme to future accrual at 31 March 2016. The two sections are defined benefit schemes and members of these schemes became 'deferred' members on closure. A curtailment gain of £3.1m was reported in opex the Financial Statements due to the net impact of these changes. **AMP6** None expected Bristol Water closed its two sections of the Water Company Pension Scheme to future accrual at 31 March 2016. The only cost going forwards are scheme running costs which are not included
2	Charge for DB schemes ~ business retail	£m	
3	Charge for DB schemes ~ wholesale water resources	£m	
4	Charge for DB schemes ~ wholesale water network plus	£m	

	LINE DESCRIPTION	Unit	Notes
			as per PR19 Business Plan data tables issues log Ref: 116 **AMP7** None expected Bristol Water closed its two sections of the Water Company Pension Scheme to future accrual at 31 March 2016. The only cost going forwards are scheme running costs which are not included as per PR19 Business Plan data tables issues log Ref: 116
5	Charge for DB schemes ~ wholesale wastewater bioresources	£m	Not applicable
6	Charge for DB schemes ~ wholesale wastewater network plus	£m	Not applicable
7	Charge for DB schemes ~ wholesale dummy control	£m	Not applicable
8	Wholesale water charge capitalised ~ defined benefit schemes	%	Years 2012/13 to 2015/16 This is the proportion of the defined benefit pension charges which is capitalised. 2015/16 is negative as we capitalised a positive cost even though there was an operating cost credit.
9	Wholesale wastewater charge capitalised ~ defined benefit schemes	%	Not applicable
B	**Accounting charge included in regulatory accounts for Defined Contribution schemes**		
10	Charge for DC schemes ~ residential retail	£m	**2012/13 to 2017/18** The charges are extracted from Lane Clarke Peacock's (pension administrator) reports. An apportionment to capital has been made by pro-rating in accordance with the operating cost note in the statutory accounts. The pro rating does not apply to the past service cost or the running cost of the defined benefit scheme.
11	Charge for DC schemes ~ business retail	£m	
12	Charge for DC schemes	£m	

	LINE DESCRIPTION	Unit	Notes
	~ wholesale water resources		The opex element is then allocated to the price controls using the allocations applied in the cost
13	Charge for DC schemes ~ wholesale water network plus	£m	Unfortunately there are not separately identifiable administration fees in respect of the defined contribution schemes (in practice very low as this is an outsourced stakeholder pension scheme with Aviva). **AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** A Labour cost Input Price Pressure of 1.8% and proposed efficiencies (Both as per WS1) are applied to these figures each year.
14	Charge for DC schemes ~ wholesale wastewater bioresources	£m	Not applicable
15	Charge for DC schemes ~ wholesale wastewater network plus	£m	Not applicable
16	Charge for DC schemes ~ wholesale dummy control	£m	Not applicable
17	Wholesale water charge capitalised ~ defined contribution schemes	%	**Historic** This is the proportion of the defined contribution pension charges which is capitalised. **Forecast** Based upon 2017/18 costs as we feel this is a good representation of future cost and ties in closely to the average percentage seen in the last 3 years.
18	Wholesale wastewater charge capitalised ~	%	Not applicable

	LINE DESCRIPTION	Unit	Notes
	defined contribution schemes		
C	**Cash contributions (DB schemes, ongoing) ~ actual and forecast**		
19	Residential retail ~ cash contributions (DB schemes, ongoing)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
20	Business retail ~ cash contributions (DB schemes, ongoing)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
21	Wholesale water resources ~ cash contributions (DB schemes, ongoing)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
22	Wholesale water network plus ~ cash contributions (DB schemes, ongoing)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
23	Wholesale wastewater bioresources ~ cash contributions (DB schemes, ongoing)	£m	Not applicable
24	Wholesale wastewater network plus ~ cash contributions (DB schemes, ongoing)	£m	Not applicable
25	Wholesale dummy control ~ cash contributions (DB schemes, ongoing)	£m	Not applicable

	LINE DESCRIPTION	Unit	Notes
26	Total cash contributions (DB schemes, ongoing)	£m	Calculation
D	**Cash contributions (DB schemes, deficit recovery) ~ actual and forecast**		
27	Residential retail ~ cash contributions (DB schemes, deficit recovery)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
28	Business retail ~ cash contributions (DB schemes, deficit recovery)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
29	Wholesale water resources ~ cash contributions (DB schemes, deficit recovery)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
30	Wholesale water network plus ~ cash contributions (DB schemes, deficit recovery)	£m	The DB scheme closed to new accrual March 2016, therefore no further contributions will be made.
31	Wholesale wastewater bioresources ~ cash contributions (DB schemes, deficit recovery)	£m	Not applicable
32	Wholesale wastewater	£m	Not applicable

	LINE DESCRIPTION	Unit	Notes
	network plus ~ cash contributions (DB schemes, deficit recovery)		
33	Wholesale dummy control ~ cash contributions (DB schemes, deficit recovery)	£m	Not applicable
34	Total cash contributions (DB schemes, deficit recovery)	£m	Calculation

App23 - Inflation measures

Historic data in this table is already pre-populated by Ofwat. However some entries for 2017/18 have been overwritten to align with the latest update (13 June 2018) provided by the Office for National Statistics:
https://www.ons.gov.uk/economy/inflationandpriceindices/datasets/consumerpriceinflation

Forecast data (from Apr-18 onwards) is aligned to inflation forecasts from the Office for Budget Responsibility (OBR) where available – this currently covers the period to March 2023. OBR forecasts are typically updated twice a year (November and March) aligned to the Budget and Spring statements. The current version of the forecast being used is March 2018.
http://budgetresponsibility.org.uk/data/

The period beyond the extent of the OBR forecasts are aligned to the long term inflation rate assumed in Ofwat's final methodology (3% for RPI and 2% for CPIH). These values have also been entered in lines 37 and 38.

The indexation rate for index linked debt percentage increase (line 27) is assumed to be in line with the year average RPI values from OBR. Whilst this is not the case in reality (the actual indexation rate is dependent on spot rates of inflation during the year) it is not possible to produce a more accurate forecast without accurate monthly inflation forecasts which are not available for AMP7.

App24 - Input proportions

<table>
<tr><th>Description</th><th></th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td>Wholesale water ~ water resources</td><td>%</td><td>Expenditure for opex and capex has been analysed over the input categories separately before being combined to allow the totex proportions to be calculated. Contracted work has been allocated based on historic averages; therefore we consider we have a reasonable level of confidence in these proportions. The only costs that make up the other category are therefore abstraction charges, local authority and cumulo rates, and a small amount of capex as set out below.

<table>
<tr><th>Water resources</th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr>
<tr><td>Abstraction Charges / Discharge consent</td><td>2.838</td><td>2.889</td><td>2.940</td><td>2.993</td><td>3.047</td></tr>
<tr><td>Local authority and Cumulo rates</td><td>1.331</td><td>1.354</td><td>1.379</td><td>1.403</td><td>1.429</td></tr>
<tr><td>Capex</td><td>0.388</td><td>0.363</td><td>0.708</td><td>0.357</td><td>0.354</td></tr>
<tr><td>"Other" totex</td><td>4.557</td><td>4.606</td><td>5.027</td><td>4.753</td><td>4.830</td></tr>
<tr><td>Total totex</td><td>15.674</td><td>15.481</td><td>18.901</td><td>15.572</td><td>15.656</td></tr>
<tr><td>"Other" proportion</td><td>29.1%</td><td>29.8%</td><td>26.6%</td><td>30.5%</td><td>30.9%</td></tr>
</table>

The input proportions are largely consistent over the AMP. The water resources capex spikes in 2022/23, which is driving a temporary increase in underlying labour and material costs. This therefore results in a decrease in in the other categories in this year.</td></tr>
<tr><td>B</td><td>Wholesale water ~ network plus</td><td>%</td><td>Expenditure for opex and capex has been analysed over the input categories separately before being combined to allow the totex proportions to be calculated. Contracted work has been allocated based on historic averages; therefore we consider we have a reasonable level of confidence in these proportions. The only costs that make up the other category are therefore abstraction charges, local authority and cumulo rates, and c. 10% of network plus capex as set</td></tr>
</table>

<table>
<tr><th>Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>out below.
<table>
<tr><th>Network plus</th><th>2020-21</th><th>2021-22</th><th>2022-23</th><th>2023-24</th><th>2024-25</th></tr>
<tr><td>Abstraction Charges / Discharge consent</td><td>0.102</td><td>0.104</td><td>0.105</td><td>0.107</td><td>0.110</td></tr>
<tr><td>Local authority and Cumulo rates</td><td>3.634</td><td>3.700</td><td>3.766</td><td>3.832</td><td>3.903</td></tr>
<tr><td>Capex</td><td>3.361</td><td>3.342</td><td>3.039</td><td>3.371</td><td>3.416</td></tr>
<tr><td>"Other" totex</td><td>7.097</td><td>7.146</td><td>6.910</td><td>7.310</td><td>7.429</td></tr>
<tr><td>Total totex</td><td>75.307</td><td>75.101</td><td>72.471</td><td>76.035</td><td>76.999</td></tr>
<tr><td>"Other" proportion</td><td>9.4%</td><td>9.5%</td><td>9.5%</td><td>9.6%</td><td>9.6%</td></tr>
</table>

The input proportions are stable over the AMP.</td></tr>
<tr><td>C</td><td>Wholesale wastewater ~ network plus</td><td>%</td><td>Not Applicable to BW</td></tr>
<tr><td>D</td><td>Wholesale wastewater ~ bioresources</td><td>%</td><td>Not Applicable to BW</td></tr>
<tr><td>E</td><td>Residential retail</td><td>%</td><td>We have analysed our retail input proportions over the categories Labour, Bad debt, IT and Other, based on historic averages.

The capital spend peaks in 2020-21 due to the proposed implementation of a new billing system. This is visible by the high proportion of IT totex compared to the subsequent years.</td></tr>
<tr><td>F</td><td>Business retail</td><td>%</td><td>Not Applicable to BW as we have exited the business retail market. Validation issue being flagged erroneously in the data table.</td></tr>
</table>

App24a - Real price effects (RPEs) and efficiency gains

<table>
<tr><th colspan="2">Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td>CPIH assumptions used for RPE calculations</td><td>%</td><td>Copied from App23 line 34.</td></tr>
<tr><td>B</td><td>Real price effects included in wholesale water resources</td><td>%</td><td>Calculated from the underlying forecast models. Our forecast RPEs are based on the average values suggested by NERA in their report for Bristol Water “Forecasts of Real Price Effects and Ongoing Productivity Improvement During PR19”. These RPEs represent Real Growth above CPIH, in line with the data table guidance.

Table 2
Bristol Water’s Forecast RPEs and Tender Price Inflation (Real Growth, ie. above CPIH)

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>Avg</th></tr>
<tr><td>Combined Opex</td><td>2.1%</td><td>2.8%</td><td>0.8%</td><td>1.5%</td><td>1.6%</td><td>1.8%</td></tr>
<tr><td>Combined Capex</td><td>1.1%</td><td>1.0%</td><td>0.8%</td><td>0.8%</td><td>0.8%</td><td>0.9%</td></tr>
<tr><td>Combined Totex</td><td>1.5%</td><td>1.8%</td><td>0.8%</td><td>1.1%</td><td>1.2%</td><td>1.3%</td></tr>
<tr><td>Tender Price Inflation</td><td>1.3%</td><td>1.3%</td><td>1.3%</td><td>1.3%</td><td>1.3%</td><td>1.3%</td></tr>
</table>
Source: NERA analysis</td></tr>
</table>

Description		Unit	Notes
C	Real price effects included in wholesale water network plus	%	Calculated from the underlying forecast models. Our forecast RPEs are based on the average values suggested by NERA in their report for Bristol Water "Forecasts of Real Price Effects and Ongoing Productivity Improvement During PR19". These RPEs represent Real Growth above CPIH, in line with the data table guidance. **Table 2** **Bristol Water's Forecast RPEs and Tender Price Inflation (Real Growth, ie. above CPIH)** | | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Avg | | Combined Opex | 2.1% | 2.8% | 0.8% | 1.5% | 1.6% | **1.8%** | | Combined Capex | 1.1% | 1.0% | 0.8% | 0.8% | 0.8% | **0.9%** | | Combined Totex | 1.5% | 1.8% | 0.8% | 1.1% | 1.2% | **1.3%** | | Tender Price Inflation | 1.3% | 1.3% | 1.3% | 1.3% | 1.3% | **1.3%** | *Source: NERA analysis*
D	Real price effects included in wholesale wastewater network plus	%	Not applicable to Bristol Water
E	Real price effects included in wholesale bioresources	%	Not applicable to Bristol Water
F	Input price pressures included in residential retail	%	Calculated from the underlying forecast models. Our opex forecast IPP is based on the average values suggested by Economic Insight in their report for Bristol Water "PR19 Retail Household IPP Analysis and Evidence". We have applied the forecast IPP for IT to our residential retail capital spend. We have used gross IPP rather than RPE as there is no indexation in the retail control to CPIH or any other inflation index, in line with data table guidance.

<table>
<tr><th>Description</th><th></th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>Table 21: Summary of gross input price assumptions – central case
<table>
<tr><th></th><th>2020/ 21</th><th>2021/ 22</th><th>2022/ 23</th><th>2023/ 24</th><th>2024/ 25</th><th>Cost mix</th></tr>
<tr><td>Staff</td><td>1.85%</td><td>2.26%</td><td>2.23%</td><td>2.23%</td><td>2.23%</td><td>43.26%</td></tr>
<tr><td>Doubtful debts</td><td>1.35%</td><td>1.78%</td><td>1.43%</td><td>1.52%</td><td>1.57%</td><td>40.23%</td></tr>
<tr><td>IT</td><td>0.74%</td><td>0.73%</td><td>0.74%</td><td>0.74%</td><td>0.74%</td><td>3.16%</td></tr>
<tr><td>Postage</td><td>6.72%</td><td>6.71%</td><td>6.71%</td><td>6.71%</td><td>6.71%</td><td>2.27%</td></tr>
<tr><td>Other</td><td>2.00%</td><td>2.00%</td><td>2.00%</td><td>2.00%</td><td>2.00%</td><td>11.08%</td></tr>
<tr><td>Gross IPP (%)</td><td>1.74%</td><td>2.09%</td><td>1.94%</td><td>1.97%</td><td>1.99%</td><td>1.95%</td></tr>
</table>
Source: Economic Insight analysis</td></tr>
<tr><td>G</td><td>Input price pressures included in business retail</td><td>%</td><td>Not Applicable to BW as we have exited the business retail market. Validation issue being flagged erroneously in the data table.</td></tr>
<tr><td>H</td><td>Assumed efficiency gains in wholesale water resources</td><td>%</td><td>Calculated from the underlying forecast models as follows:
((Cost in year ‘t’) – (Cost in year ‘t-1’)) / (Cost in year ‘t-1’)
Where cost in year ‘t-1’ is calculated as follows:
(Cost in year ‘t’ pre-efficiency) * (Cumulative efficiency gains to year ‘t-1’)

The underlying efficiency assumptions are set out in section C5. We have assumed an 8% catch-up to upper quartile for capital expenditure that also reflects other available evidence, and 0.9% p.a. frontier shift. The wholesale opex efficiency gap is based on an assumption of a 1% initial efficiency challenge based on 2016/17 costs, with 2017/18 costs in excess of this, plus a 0.7% frontier shift in 2018-20 resulting in an initial 3.2% cost reduction. The 2020/21 figures</td></tr>
</table>

<table>
<tr><th>Description</th><th></th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>reflect fully catching up these efficiency gaps for the start of the AMP7 and also considers the impact of frontier shift from 2016/17.

Table 3
Productivity Measures Relevant to the Intended Use
(EU KLEMS data, 1970-2007, % per annum)
<table><tr><th rowspan="2">Industry Sector</th><th>For capital expenditure</th><th colspan="2">For operational expenditure</th></tr><tr><th>TFP (GO)</th><th>LEMS (GO, constant capital)</th><th>LEMS (GO, capital substitution)</th></tr><tr><td>Unweighted average of comparator sectors</td><td>0.7%</td><td>0.7%</td><td>0.9%</td></tr><tr><td>Unweighted average of comparator sectors (excl. manufacturing)</td><td>0.5%</td><td>0.5%</td><td>0.8%</td></tr><tr><td>Whole economy (exc. non-market sectors)</td><td>0.4%</td><td>0.4%</td><td>0.8%</td></tr><tr><td>NERA preferred estimate (mid-point of range)</td><td>0.6%</td><td colspan="2">0.7%</td></tr></table>NERA analysis of EU KLEMS database.

Subsequent years show a lower movement as they are based on maintaining the upper quartile position, and therefore just show the impact of the frontier shift.

The opex frontier shift of 0.7% is as suggested by NERA in their report for Bristol Water “Forecasts of Real Price Effects and Ongoing Productivity Improvement During PR19”. Capex frontier shift was increased to 0.9% to consider the potential range identified by KPMG / Aqua. Further details provided in our business plan documents A1 – Main narrative (cost and efficiency section) and C5 – Cost and Efficiency.</td></tr>
<tr><td>I</td><td>Assumed efficiency gains</td><td>%</td><td>Calculated from the underlying forecast models as follows:</td></tr>
</table>

	Description	Unit	Notes
	in wholesale water network plus		((Cost in year 't') – (Cost in year 't-1')) / (Cost in year 't-1') Where cost in year 't-1' is calculated as follows: (Cost in year 't' pre-efficiency) * (Cumulative efficiency gains to year 't-1') The underlying efficiency assumptions are set out in section C5. We have assumed an 8% catch-up to upper quartile for capital expenditure that also reflects other available evidence. The wholesale opex efficiency gap is based on an assumption of a 1% initial efficiency challenge based on 2016/17 costs, with 2017/18 costs in excess of this, plus a 0.7% frontier shift in 2018-20 resulting in an initial 3.2% cost reduction. The 2020/21 figures reflect fully catching up these efficiency gaps for the start of the AMP7 and also considers the impact of frontier shift from 2016/17. Subsequent years show a lower movement as they are based on maintaining the upper quartile position, and therefore just show the impact of the frontier shift. The opex frontier shift of 0.7% is as suggested by NERA in their report for Bristol Water "Forecasts of Real Price Effects and Ongoing Productivity Improvement During PR19". Capex frontier shift was increased to 0.9% to consider the potential range identified by KPMG / Aqua. Further details provided in our business plan documents A1 – Main narrative (cost and efficiency section) and C5 – Cost and Efficiency. The calculated weighting formula in Column I is incorrect.

<table>
<tr><th>Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>
Table 3
Productivity Measures Relevant to the Intended Use
(EU KLEMS data, 1970-2007, % per annum)
<table>
<tr><th rowspan="2">Industry Sector</th><th>For capital expenditure</th><th colspan="2">For operational expenditure</th></tr>
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<tr><td>Whole economy (exc. non-market sectors)</td><td>0.4%</td><td>0.4%</td><td>0.8%</td></tr>
<tr><td>NERA preferred estimate (mid-point of range)</td><td>0.6%</td><td colspan="2">0.7%</td></tr>
</table>
NERA analysis of EU KLEMS database.
</td></tr>
<tr><td>J</td><td>Assumed efficiency gains in wholesale wastewater network plus</td><td>%</td><td>Not applicable to Bristol Water</td></tr>
<tr><td>K</td><td>Assumed efficiency gains in wholesale bioresources</td><td>%</td><td>Not applicable to Bristol Water</td></tr>
<tr><td>L</td><td>Assumed efficiency gains in residential retail</td><td>%</td><td>Calculated from the underlying forecast models as follows:
((Cost in year ‘t’) – (Cost in year ‘t-1’)) / (Cost in year ‘t-1’)
Where cost in year ‘t-1’ is calculated as follows:
(Cost in year ‘t’ pre-efficiency) * (Cumulative efficiency gains to year ‘t-1’)
Our 2016/17 costs were assessed as being 5.4% off upper quartile by Economic Insight, and we have applied this to our opex figures. The 2020/21 figures reflect fully closing this gap for the start of the AMP7 and also considers the impact of frontier shift from 2016/17.</td></tr>
</table>

<table>
<tr><th>Description</th><th></th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>
Table 2: Summary of frontier-shift analysis
<table>
<tr><th colspan="2">Scenario / cost type</th><th>Low</th><th>Central</th><th>High</th></tr>
<tr><td colspan="2">Time-period data based on</td><td>2007-2015</td><td>1999-2015</td><td>1999-2008</td></tr>
<tr><td rowspan="2">Retail</td><td>Opex</td><td>-0.42%</td><td>0.42%</td><td>1.10%</td></tr>
<tr><td>Capex</td><td>-0.31%</td><td>0.28%</td><td>0.56%</td></tr>
</table>
Source: Economic Insight analysis

Subsequent years show a lower movement as they are based on maintaining the upper quartile position, and therefore just show the impact of the frontier shift.
The frontier shift is as suggested by Economic Insight in their report for Bristol Water “PR19 Retail Household IPP Analysis and Evidence”. Further details provided in our business plan documents A1 – Main narrative (cost and efficiency section) and C5 – Cost and Efficiency.
The calculated weighting formula in Column L is incorrect.
</td></tr>
<tr><td>M</td><td>Assumed efficiency gains in business retail</td><td>%</td><td>Not Applicable to BW as we have exited the business retail market. Validation issue being flagged erroneously in the data table.</td></tr>
</table>

App25 - PR14 reconciliation adjustments summary

This table requires inputs from:

Ofwat Revenue Adjustments Model
Ofwat RCV Adjustments Model
All other inputs are pre-populated or copied from other tables.

Updates from early submission

This table was originally submitted as part of the July 2018 reconciliation submission.
No updates to the inputs to this table have been required, however, the amendments to table WS13 as set out in the commentary to that table result in a change to the value of WS13 line 31, which is also shown as line 22 of App25.

Application of adjustments

Full details of our approach to population of this table and the adjustments to PR19 revenue and RCV can be found in section C7 of our business plan.

App26 - RoRE Scenarios

Comments on method for producing data

This table provides details of high and low RoRE sensitivity cases, for revenue, totex, retail costs, ODIs, C-MeX and D-Mex, and financing performance. A full explanation is included in the C6 commentary. This table is populated based on the 'Sensi' sheet within the PR19 Financial Model.

Section 1 - Financing

For the financing upside and downside scenarios the proportion of floating debt held as at 31/3/18 was determined to be 9.7%

1a Financing Upside

The floating rate of interest was assumed to fall by 0.5% and hence the change in net profits was calculated as:

Regulated debt* 9.7% * 0.5% * (1 – 17%)
Where Regulated debt = Average RCV * 60%
The 17% adjustment reflects that the gap between our c5% new debt and the standard 30% reflected in the cost of capital. (ie (30%-5%)/30% = 83%)This calculation (upside and downside) is shown below:

				2020-21	2021-22	2022-23	2023-24	2024-25
Average RCV (17-18 real)				528.7	529.6	530.6	531.7	533.1
Regualted equity	60%			211.5	211.8	212.2	212.7	213.2
Financing	P10			-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
	P90			0.1%	0.1%	0.1%	0.1%	0.1%
Borrowing and refinancing costs								
Embedded	1.50%			- 0.383	- 0.384	- 0.385	- 0.386	- 0.387
	-0.50%			0.128	0.128	0.128	0.129	0.129

This gives rise to an expected increase in post tax profits of £0.128m and is split 22%/78% between Water Resources and Network Plus.

Model population: 'Sensi' row 326 (Water resources) - £0.028m 'Sensi' row 357 (network plus) - £0.1m Data table population: App 26 Block M Line 84 (Water resources) - £0.028m Data table population: App 26 Block M Line 83 £0.1m

1b Downside

The floating rate of interest was assumed to rise by 1.5% and hence the change in net profits was calculated as:

Regulated debt* 9.7% * 1.5% * (1 – 17%)
Where Regulated debt = Average RCV * 60%
This gives rise to an expected decrease in post tax profits of £0.383k and is split 22%/78% between Water Resources and Network Plus

Model population: ‘Sensi’ row 327(Water resources) - £(0.085)m ‘Sensi’ row 357 (network plus) - £(0.299)m
Data table population: App 26 Block N Line 89(Water resources) - £(0.085)m Data table population: App 26 Block N Line 88 £(0.299)m

2 - Revenue
2a Water Resources - Upside
For the upside case allowed revenues are assumed to increase by 5% in 20/21 and each year the revenue is assumed to grow by 1% more so that by 29/30 revenues are growing by 14%
Ultimately this element is then not applied in RORE due to revenue correction and a lack of new water resource investment causing market entry risk, meaning it fall outside of the central RORE range.
The calculations for all revenue risk is shown below (pre tax)

		31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25
		Pre-Fcst	Pre-Fcst	Forecast	Forecast	Forecast	Forecast	Forecast
		2019	2020	2021	2022	2023	2024	2025
		1	2	3	4	5	6	7
	Base							
	Revenues			18.544	18.771	19.142	19.511	19.722
	(excl cap contribut)			87.347	87.667	87.714	88.028	88.173
				9.960	10.139	10.229	10.234	10.180
	Water resources			0.927	-	(0.927)		
	Water network plus			0.873	-	(0.873)		
Water input	Ml			272	273	272	272	271
Volume billed	Ml			235	235	235	236	237
Household	Ml			175	174	175	176	177
Nonhousehold	Ml			60	60	60	60	60
Household measured	Ml			94	97	101	105	110
Water resources				5.0%	6.00%	7.00%	8.00%	9.00%
Upside								
Upside	£m			0.93	1.13	1.34	1.56	1.77
Downside	£m			(0.93)	(1.13)	(1.34)	(1.56)	(1.77)
Water network plus	£m			0.87	0.88	0.88	0.88	0.88
Retail margin sensitivity				0.018	0.020	0.022	0.024	0.027
				(0.018)	(0.020)	(0.022)	(0.024)	(0.027)
Plus fixed cost				0.048	0.080	0.112	0.144	0.177
				(0.030)	(0.060)	(0.090)	(0.120)	(0.150)

Model population: ‘Sensi’ row 330
Data table population: App 26 Block A Line 4
2b Water Resources - Downside
Symmetrical calculation such that revenue is assumed to decrease instead of increase by the amount calculated each year.
Ultimately this element is then not applied in RORE due to revenue correction and a lack of new water resource investment causing market entry risk, meaning it fall outside of the central RORE range.

Model population: ‘Sensi’ row 331
Data table population: App 26 Block B Line 15
2c Network Plus- Upside
For the upside case allowed revenues are assumed to increase by 1% in each year.

Ultimately this element is then not applied in RORE due to revenue correction and a lack of new water resource investment causing market entry risk, meaning it fall outside of the central RORE range.

Model population: 'Sensi' row 361
Data table population: App 26 Block A Line 1

2d Network Plus – Downside
Symmetrical calculation such that revenue is assumed to decrease instead of increase by the amount calculated each year.
Ultimately this element is then not applied in RORE due to revenue correction and a lack of new water resource investment causing market entry risk, meaning it fall outside of the central RORE range.

Model population: 'Sensi' row 362
Data table population: App 26 Block B Line 12

3 – ODI

For ODI adjustments to Net Profit for the Upside and Downside case for both Water Resources and Network plus these values are taken from the P10 & P90 ranges for each price control set out in Business Plan document C3 – Delivering outcomes for customers.

For 25/26-29/30 values are set to equal those in 24/25 (although this does not feature in the App26 tables, it does feature in the Ofwat model)

3a – ODI Water Resources Upside
Model population: 'Sensi' row 340
Data table population: App 26 Block I Line 66

3b – ODI Water Resources Downside
Model population: 'Sensi' row 341
Data table population: App 26 Block J Line 72

3c – ODI Network Plus Upside
Model population: 'Sensi' row 371
Data table population: App 26 Block I Line 65

3d – ODI Network Plus Downside
Model population: 'Sensi' row 372
Data table population: App 26 Block J Line 71

4 – Costs RORE adjustments to Net Profits
Note calculated for AMP7 and for AMP8 values are set to equal final period of AMP7.

4a Water Resources Downside
This is made up the Canal & River Trust unmitigated risk which is an additional cost of £1.3m per annum. This is calculated as the point at which the unmitigated risk triggers a notified item and then at

the point 25% or the cost risk remains after being mitigated. At a total cost risk of £2.6m above the £1.8m base, 25% of this (above the 50% standard sharing rate) is mitigated.

Model population: 'Sensi' row 345
Data table population: App 26 Block D Line 44

4b Water Resources Upside
The upside case includes Efficiency and Frontier Opex shift.

Relates to Efficiency and Frontier shift and is calculated as 22% (the water resource RCV allocation as a proxy) of the Wholesale Opex Efficiency and Frontier Shift.

The Wholesale Opex shift is calculated as 50% of the total shift (to reflect the sharing rate) which is calculated in year 1 as 5% of £100m, with 1% p.a. additional frontier shift in efficiency potential.
In subsequent years the value is set equal to the previous period value to which 1% of £100m is added and 1% of £10m is subtracted. This produces a declining efficiency profile as efficiency upside possibilities are delivered.

Model population: 'Sensi' row 344
Data table population: App 26 Block C Line 27 e.g.

2020-21	£0.550m = £100m*5%*22%*0.5
2021-22	£0.649m = £0.550m + £0.099 (£100m*1%*22%*0.5)

4c Network Plus Downside

Made up of:
General Opex risk
£0.65m per annum made up of an efficiency risk base of £13m (to reflect the range of efficiencies within the plan) spread evenly over 5 years, with 25% included each year (the assumed opex/capex split for these totex general efficiency risk assumptions).

General Capex risk
In year 1 the remaining 75% not included as Opex in year 1 £1.95m.
For subsequent years it is the remaining 75% not included as Opex PLUS the amount included as Capex risk in the previous year, e.g £1.95 m from year 1 + £1.95m for year 2.

Lane rental risk
£1.01m per annum (14,500 permits at £70 per permit).

Leakage risk
£0.90m per annum – reflecting 2017/18 additional cost of delivery during severe weather events (assumed one in 5 years but sequential years possible, therefore within 80% confidence range each year.

The DWI Cheddar WTW risk reflects the risk that the DWI will require a scheme that has a Regulation 28 requirement but we are only including the cost of investigations and trials in the plan due to the uncertainty that the scheme ultimately is required.
DWI Cheddar capex risk; and £4.5m in year 2
DWI Cheddar opex risk: £0.3m in years 3-5

Model population: 'Sensi' row 376
Data table population: App 26 Block D Line 40

2020-21	£4.51m = £0.65m (£13m/5*25%) + £1.95m (£13m/5*75%) + £1.01m +£0.9m
2021-22	£10.96m = £0.65m + £1.95m + £1.95m + £1.01m + £0.9m + £4.5m
2022-23	£8.71m = £0.65m + £1.95m + £1.95m + £1.95m +£1.01m + £0.3m
2023-24	£10.66m = £8.71m + £1.95m
2024-25	£12.61m = £10.66m +£1.95m

4d Network Plus Upside
Made up of:

Opex opportunity
Same calculations as per Opex risk but this time £14m rather than £13m spread evenly over 5 years, £0.7m (£14m/5*25%). The difference between upside and downside reflects our overall efficiency assessment set out in section C5:

	Pre-efficiency (£m)	Post-efficiency (£m)	Efficiency (£m)	
Wholesale opex	301	279	22	7.31%
Capital maintenance - infra	69	63.5	6	8.00%
Capital maintenance - non-infra	80	73.5	6	8.00%
Capital enhancements (net)	48	44.6	4	8.00%
Capex frontier efficiency			10	5.3%
Retail opex - net efficiency	49	45	4	7.63%
TOTAL EFFICIENCY	**547**	**505**	**52**	
		Low £m	**Medium £m**	**High £m**
Range identified from transformation savings		24	34	46
Frontier shift and innovations		15	18	20
Total potential		**39**	**52**	**66**

Capex opportunity
Again same calculations as Capex risk but based on £14m rather than £13m spread evenly over 5 years. £2.1m (£14m/5*75%)

Opex efficiency and frontier shift
As per Water Resources upside but this time taking 78% rather than 22% for Water Resources.
Year 1 = £1.95m (£100m*5%*78%*0.5)
Year 2 etc. = £2.34m = Year 1 £1.95m + £0.39 (£100m*1%*78%*0.5)

Model population: 'Sensi' row 375
Data table population: App 26 Block C Line 23

2020-21	£4.75m = £1.95m + £0.7m + £2.1m
2021-22	£7.2m = £2.3m + £0.7m + £2.1m + £2.1m
2022-23	£9.7m = £7.2m + £0.4m+£2.1m
2023-24	£12.1 = £9.73m + £0.4m+£2.1m
2024-2025	£14.6= £12.1 + £0.4m+£2.1m

5 Cost Including Uncertainty Mechanism

Only present for Water Resources

5a Water Resources Downside

The value calculated here is Totex downside after tax less the value shown for the Cost Downside above.

The Water resource downside relates to the Canal & River Trust and in this instance £1.3m per annum. 50% in the mitigation is shown in this line as +£0.65m as then the net risk is 50% of £0.65m - £0.325m (ie 25% of £1.3m)

Model population: 'Sensi' row 351

Data table population: App 26 Block D Line 46

6 – DMEX

Values for Water Network Plus are taken from the P10 & P90 ranges for each price control set out in Business Plan document C3 – Delivering outcomes for customers.

Upside

Model population: 'Sensi' row 385

Data table population: App 26 Block K Line 78

Downside

Model population: 'Sensi' row 386

Data table population: App 26 Block L Line 81

7 - Retail Revenues

7a Retail Residential Downside

Calculated by applying 1% (retail margin) to the sum of the downside revenue adjustments for Water Resources and Network Plus

Model population: 'Sensi' row 463

Data table population: App 26 Block B Line 21

7b Retail Residential Upside

Calculated by applying 1% (retail margin) to the sum of the upside revenue adjustments for Water Resources and Network Plus

Model population: 'Sensi' row 462

Data table population: App 26 Block A Line 10

8 – Retail Costs
8a – Retail Costs downside
Post tax costs impact of sum of
Bad debt cost risk
5% applied to 17/18 bad debt cost of £2.912m = £0.146m
Cost risk;
5.4% cost risk applied to £9.3m= £0.502m.
5.4% is the efficiency assumptions assumed in the plan

Property fixed cost risk
1,500 properties @ £20 fixed cost per property = £0.030m.
This reflects that retail costs are generally fixed and therefore customer numbers reflect a cost recovery risk.
Annual numbers after 2021 increase incrementally for this new property variation each year.

We apply a 17% overlap adjustment between the different cost risks, based on management estimate of the bad debt risk as part of the overall cost risk (reflecting that the 5.4% efficiency estimate was made up of a 17% potential bad debt efficiency gap.

Model population: 'Sensi' row 469
Data table population: App 26 Block F Line 60 = £0.678m * (1-17%) = £0.563m

8b – Retail Costs upside
Post tax costs impact of sum of:

Bad debt cost opportunity
16% applied to 17/18 bad debt cost of £2.912m = £0.466m. This reflects the potential efficiency frontier for bad debt as estimate by Economic Insight (see section C5).

Cost opportunity
3% cost opportunity to £9.3M = £0.279m. This reflects the cost upside based on the 0 – 8.4% efficiency range identified by Economic Insight.

Property fixed cost opportunity
1,500 properties @ £20 cost per property £0.030m. Annual numbers after 2021 increase incrementally for this new property variation each year.

Model population: 'Sensi' row 468
Data table population: App 26 Block E Line 57 = £0.775m * (1-17%) = £0.642

We apply a 17% overlap adjustment between the different cost opportunities, based on management estimate of the bad debt risk as part of the overall cost risk (reflecting that the 5.4% efficiency estimate was made up of a 17% potential bad debt efficiency gap.

9 - CMEX
CMEX upside and downside values – sourced from separate ODI calculation file

There is no line in the SENSI sheet line for Retail ODIs, and therefore, as we mention in the C6 commentary, we have included retail ODIs within the CMEX reward and penalty. We show below the mapping to the APP26 sheet.

9a Upside
Model population: 'Sensi' row 474 - £1.093m 2020/21 etc.
Data table population: App 26 Block K Line 77 - £1.072m + Data table population: App 26 Block I Line 70 - £0.020m [£0.001m rounding in source file]

9b Downside
Model population: 'Sensi' row 475 – £(1.205)m 2020/21 etc.
Data table population: App 26 Block L Line 80 - £(1.072)m + Data table population: App 26 Block J Line 76 - £(£0.132)

Commentary
The process followed for populating App26 is explained below, and also within section C6 of our business plan – sections 5.4 and 5.5.

The output of the Ofwat RoRE scenarios is shown in the table below (in brackets) compared to our intended calculation. We explain after the table the approach we took to reconciling this, which is largely rounding between the component parts.

Table 11 - Ofwat RoRE scenarios

	Appointee	Water resources	Water Network plus
Financing Outperformance	+0.1% (+0.1%)	+0.1% (+0.1%)	+0.1% (+0.1%)
ODI outperformance	+1.1% (+1.1%)	+0.2% (+0.2%)	+1.2% (+1.3%)
Totex outperformance	+2.3% (+2.2%)	+0.7% (+0.7%) (+1.3% before uncertainty mechanism)	+2.4% (+2.5%)
D-MeX outperformance	+0.1% (+0.0%)		+0.1% (+0.1%)
C-MeX outperformance	+0.4% (+0.5%)		
	4.7% (4.65%)	4.2% (4.24%)	4.3% (4.26%)
Financing underperformance	-0.2% (-0.2%)	-0.2% (-0.2%)	-0.2% (-0.1%)
ODI underperformance	-2.3% (-2.4%)	-0.6% (-0.6%)	-2.7% (-2.7%)
Totex underperformance	-2.4% (-2.2%)	-0.5% (-0.6%) (-2.6% before uncertainty mechanism)	-2.4% (-2.4%)
D-MeX underperformance	-0.1%(-0.1%)		-0.1% (-0.1%)
C-MeX underperformance	-0.5%(-0.6%)		
Upside total	+4.0% (+3.9%)	+1.0% (+0.9%)	+3.8% (+3.9%)
Downside total	-5.5%(-5.5%)	-1.3% (-1.4%)	-5.4% (-5.4%)
Total P90	8.7% (8.6%)	5.2% (5.2%)	8.1% (8.1%)
Central RoRE	4.7%	4.2%	4.3%
Total P10	-0.8%(-0.8%)	2.9% (2.9%)	-1.1% (-1.1%)

NB: The Retail cost component of Totex is +0.3% to -0.4%. The Retail element of ODIs in addition to C-MeX is less than 0.1% (average +£0.02m to -£0.18m) p.a.

The totals from the financial model are broadly comparable to our own calculation – we explain below, as well as the differences in average RPI calculation, why there are small differences and the adjustments in the RORE sensitivity in the Ofwat model we have made to align the calculation as closely as possible.

We had to make a number of adjustments from the inputs on App26 into the financial model in order to complete the RORE calculation. We have set out above the basis of our own RORE calculation separately.

- The wholesale business units did not automatically include any totex sharing rate, or apply any tax. As the inputs are pre-tax as per App26 guidance, in order to get the overall RORE range we

applied a sharing rate of 50% included in App26 for wholesale. We included this within the inactive lines 1778 for water resources and 1799 for water network plus. For tax we applied a 17% tax rate manually in the Sensi spreadsheet compared to what is shown on App26, with the exception of ODIs.

- For Retail costs and revenues we applied a 17% tax rate manually in Sensi lines 462 and 463 to make the RORE impact post the tax benefit of the additional costs.
- To adjust for the Appointee costs – we amended the Water Network plus Sensi lines 381 and 382 (the uncertainty cost mechanism lines) to be 50% (the sharing rate of lines 375 and 376. We ignored this line in the Water Network plus RoRE calculation (it produces the same result within water network plus), but this pulled through the correct number for the appointee entries.
- The ODI entries are mapped pre-tax rather than post tax gross-up as suggested in App26. This is because the model for the sub-control RORE calculations does not apply a tax adjustment, so we have input the pre-tax rather than the post-tax amounts. This is because the post-tax amounts when grossed up to allow for tax. There is no separate input for retail ODIs, so we have included this in the C-MeX line in Sensi sheet lines 474 and 475.
- For Water Resources, we attempted to input our uncertainty mechanism as per the App26 guidance. Unfortunately the financial model took the unadjusted pre uncertainty mechanism costs into both the pre and post- uncertainty mechanisms line for water resources. To adjust for this, we combined our App26 inputs into the single sensi line 344 and 345 to include the impact of the uncertainty mechanism. The total was adjusted as shown below in order to calculate the RoRE impact we had calculated using our own analysis that fed into App26.

Line	Title	2020/21	2021/22	2022/23	2023/24	2024/25
Sensi 326	WR Financing upside	0.028	0.028	0.028	0.028	0.028
Sensi 326	WR Financing upside – tax adjusted	0.023	0.023	0.023	0.024	0.024
Sensi 327	WR Financing downside	(0.085)	(0.085)	(0.085)	(0.085)	(0.085)
Sensi 327	WR Financing downside – tax adjusted	(0.070)	(0.070)	(0.070)	(0.071)	(0.071)
Sensi 344	WR Costs upside	0.550	0.649	0.748	0.847	0.946
Sensi 344	WR Costs upside – tax adjusted	0.457	0.539	0.621	0.703	0.785
Sensi 345	WR Costs downside	(1.300)	(1.300)	(1.300)	(1.300)	(1.300)

Line	Title	2020/21	2021/22	2022/23	2023/24	2024/25
Sensi 345	WR Costs downside – tax and mitigation adjusted	(0.540)	(0.540)	(0.540)	(0.540)	(0.540)
Sensi 351	WR – costs including uncertainty mechanism downside	0.650	0.650	0.650	0.650	0.650
Sensi 351	WR – costs including uncertainty mechanism downside – sharing and tax adjustment for 345	0.540	0.540	0.540	0.540	0.540
Sensi 357	WNP – financing upside	0.100	0.100	0.100	0.100	0.100
Sensi 357	WNP – financing upside – tax adjustment	0.083	0.083	0.083	0.083	0.083
Sensi 358	WNP – financing downside	(0.299)	(0.299)	(0.300)	(0.300)	(0.301)
Sensi 358	WNP – financing downside – tax adjustment	(0.248)	(0.248)	(0.249)	(0.249)	(0.250)
Sensi 375	WNP – costs upside	4.750	7.201	9.652	12.103	14.554
Sensi 375	WNP – costs upside-tax adjustment	3.943	5.977	8.011	10.045	12.080
Sensi 376	WNP – costs downside	(4.510)	(10.960)	(8.710)	(10.660)	(12.610)
Sensi 376	WNP – costs downside-tax adjustment	(3.743)	(9.097)	(7.229)	(8.848)	(10.466)
Sensi 385	WNP – uncertainty mechanisms upside	-	-	-	-	-
Sensi 385	WNP – uncertainty mechanisms upside – adjusted to 50% sharing for appointee RORE only	1.971	2.988	4.006	5.023	6.040
Sensi 386	WNP – uncertainty mechanisms downside	-	-	-	-	-
Sensi 386	WNP – uncertainty mechanisms downside – adjusted to 50% sharing for appointee RORE only	(1.872)	(4.548)	(3.615)	(4.424)	(5.233)

Line	Title	2020/21	2021/22	2022/23	2023/24	2024/25
Sensi 468	Retail – cost upside	0.643	0.668	0.693	0.718	0.743
Sensi 468	Retail – cost upside – tax adjustment	0.534	0.555	0.575	0.596	0.617
Sensi 469	Retail – cost downside	(0.563)	(0.708)	(0.854)	(1.000)	(1.146)
Sensi 469	Retail – cost upside – tax downside	(0.467)	(0.588)	(0.709)	(0.830)	(0.951)

Financial Viability testing

We have undertaken considerable financial viability testing in support of our plan and the trade-offs we have considered. We describe under the financeability section above the key trade-offs made in the development of our plan, including the uncertainty and risk mitigation mechanisms that we propose.

In this section we consider the downside case illustrated using the Ofwat standard scenarios, both for the Ofwat ratios (based on revenues after the application of AMP6 reconciliation adjustments) and our own ratios (run through our corporate financial model).

Consistent with our approach to annual financial viability testing, which is carried out over a rolling 10 year future period, and our long term bill profiling out to 2030, we have carried out our analysis over the period 2020-2030 for the purposes of the combined scenarios.

Because of the impact of AMP6 reconciliation revenue adjustments which affect AMP7 ratios, the critical period for the testing is 2020-2025.

The underlying ratios from the financial model before applying the scenarios, with our ratio colour indications as set out further below are:

OFWAT Model Notional With Penalties

Financial ratios ~ Notional capital structure	2020-21	2021-22	2022-23	2023-24	2024-25
Gearing	60.21%	59.92%	59.55%	59.18%	58.83%
Interest cover	4.23	4.33	4.39	4.46	4.49
Adjusted cash interest cover	2.22	2.28	2.30	2.33	2.32
Adjusted cash interest cover (alternative calculation)	1.24	1.27	1.30	1.33	1.35
FFO/Net Debt	12.7%	12.9%	13.0%	13.2%	13.1%
FFO/Net Debt (alternative calculation)	11.8%	12.0%	12.0%	12.2%	12.1%
Dividend cover	2.80	2.77	2.68	2.61	2.49
RCF/Net Debt	10.69%	10.89%	10.94%	11.05%	10.99%
RCF/Capex	90.61%	95.33%	94.41%	95.41%	93.62%
Return on capital employed	6.57%	6.51%	6.35%	6.25%	6.06%
RORE	4.57%	4.61%	4.64%	4.68%	4.72%
Target Credit Rating	Moody's Baa2	Moody's Baa2	Moody's Baa2	Moody's Baa2	Moody's Baa2
Moody's AICR	1.19	1.22	1.26	1.28	1.30
S&P FFO/Debt	11.6%	11.8%	11.8%	12.0%	11.9%

OFWAT Model Actual With Penalties

A	Financial ratios ~ Actual capital structure	2020-21	2021-22	2022-23	2023-24	2024-25
1	Gearing	67.09%	67.23%	67.35%	67.48%	67.65%
2	Interest cover	3.99	4.00	3.98	3.97	3.94
3	Adjusted cash interest cover	2.08	2.09	2.06	2.06	2.01
4	Adjusted cash interest cover (alternative calculation)	1.14	1.15	1.15	1.16	1.16
5	FFO/Net Debt	11.1%	11.1%	11.1%	11.0%	10.9%
6	FFO/Net Debt (alternative calculation)	9.6%	9.6%	9.5%	9.5%	9.3%
7	Dividend cover	2.54	2.47	2.31	2.21	2.04
8	RCF/Net Debt	9.49%	9.52%	9.43%	9.39%	9.22%
9	RCF/Capex	89.58%	93.57%	91.99%	92.49%	90.27%
10	Return on capital employed	6.48%	6.42%	6.26%	6.16%	5.97%
11	RORE	4.66%	4.68%	4.70%	4.72%	4.74%
12	Target Credit Rating	Moody's Baa2	Moody's Baa2	Moody's Baa2	Moody's Baa2	Moody's Baa2
13	Moody's AICR	1.19	1.19	1.20	1.20	1.20
14	S&P FFO/Debt	9.4%	9.5%	9.4%	9.3%	9.2%

Corporate Model

		Target	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30
Moody's												
	AICR	1.50	1.25	1.25	1.26	1.26	1.26	1.60	1.60	1.60	1.60	1.62
	Gearing	72.0%	65.2%	65.3%	65.5%	65.7%	65.9%	65.7%	65.5%	65.4%	66.6%	66.4%
	* Green = target met + headroom; Amber = close to target; Pink = Failing target but investment grade; Red = sub-investment grade											
S&P			20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30
	FFO/Debt	8.0%	9.3%	9.3%	9.2%	9.2%	9.0%	10.1%	10.1%	10.2%	10.0%	10.1%
	Debt/EBITDA		*6.58*	*6.54*	*6.56*	*6.56*	*6.63*	*6.11*	*6.08*	*6.04*	*6.13*	*6.10*
	* Green = target met + headroom; Amber = close to target; Pink = Failing target but investment grade; Red = sub-investment grade											
Artesian			20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30
	ICR	1.40	1.46	1.46	1.58	1.61	1.59	1.62	1.62	1.63	2.19	1.46
	RAR	86.0%	65.4%	65.2%	65.4%	65.6%	65.9%	65.7%	65.5%	65.4%	66.6%	67.3%
	* Green = target met + headroom; Amber = close to target; Red = Failing target											

Validation Errors

We have not completed the rows which do not apply to Bristol Water as a water only company which has exited the Business retail market:

- Wastewater network plus,
- Bioresources,
- Dummy control
- Business retail

These are shown as validation errors within the data table model.

App27 - PR14 Reconciliation – Financial Outcome Delivery incentives Summary

This table reconciles 2015-2020 performance for the company's financial ODIs; for 2015-16, 2016-17, 2017-18 actuals (this information has been reported and assured in previous Annual Performance Reports) and 2018-19 and 2019-20 forecasts (the forecasts for these two years have been provided by the business).

ODI payments for the majority of the measure will be taken as a revenue adjustment, which will have an impact on customer bills during 2020-25. The exceptions are our Asset Reliability (infrastructure and non-infrastructure) performance commitments. The ODI penalties for these measures will be taken as a Regulatory Capital Value (RCV) adjustment, which will have an impact on our customers' bills but over a longer period of time (compared to revenue adjustments). This is because penalty adjustments to RCV take place over a much longer time-period, typically more than 20 years to have a full financial effect on customer bills. This form of penalty is appropriate because these performance commitments relate to the long-term health of our assets, which reflects investment over a significant amount of time.

The data for 2015/16, 2016/17 and 2017/18 has been reported by the Company in table 3A of its Annual Performance Report. This table sets out the level of performance against each performance commitment and the applicable reward or penalty for that year. Table 3a also provides a forecast of the overall level of incentive payable for each measure for the whole of AMP6. Entries to table 3A for these three years have been subject to external assurance by the Company's technical assurer, and internal governance to support Board approval of the submission. Full details are set out in section C7

The forecast performance levels are reported in tables App5 and App6, along with the forecast level of incentive payment to have been accrued at the end of 2018/19 and 2019/20. The actual and forecast performance data is used to calculate the level of incentive payments applicable for each year and AMP6 in total in App27. These values are in 12/13 RPI prices as set out in the PR14 FD.

The source totals for 2018/19 and 2019/20 ODIs is as follows

Block and column in App27	**Line description**	**App5 Performance Commitment**
B6, column J	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Wholesale water	Leakage + Meter Penetration
B6, column K	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Wholesale water	Leakage
C11, column J	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Wholesale water	Asset reliability – infrastructure

The total value of revenue and RCV incentive adjustments is input to the PR19 revenue adjustment and RCV feeder models as published by Ofwat. These calculate the values to be applied at PR19, indexed to 2017/18 CPIH price base. These values are input to lines 42 and 49 of table App27

App28 - Developer Services (Wholesale)

This data table sets out the Developer Services expenditure and activity against the table line descriptions.

Line 1 – This is the number of new residential connections which is populated from the Water Resources Management Plan.
This line equals Line 14 Table WS3. Historic data is provided from Annual Performance Reports

Line 2 – This is the number of new business connections which is populated from the Water Resources Management Plan.
This line equals Line 13 Table WS3. Historic data is provided from Annual Performance Reports.

Lines 3 – 6 – This is the forecast Capital expenditure that is required to serve New Developments whereby there is insufficient capacity in the existing distribution system requiring upstream reinforcement mains, pumping stations or Storage Reservoirs. These costs are recovered through Infrastructure Charges.
The total expenditure equals Line 16 of WS1. This forecast is based on known reinforcement works required to serve future developments together with an element of unknown reinforcement works predicted.

Lines 7 – 13 – This is the forecast grants and contributions we expect to receive through Developer Services charges and includes an allowance for the applied income offset (shown in line 14).

Items include:- Connection Charges, Infrastructure Charges, Requisitioned Mains, Other Contributions, Diversions and Other Contributions.

The total grants and contributions (Line 13) equals Line 20 Table WS1.

From 2020 income offsets will apply against infrastructure charges instead of mains and Developers will pay the full cost of mains. Line 8 is negative because the infrastructure reinforcement in line 6 is less than the income offset of the items in lines 7,9 and 10,

Developer payments for non contestable works are included in Line 10 instead of being included in requisitioned mains as in previous APR submissions and explains why there increase from 2018/19 onwards.

Lines 14 – 16 – This is the total income offsets that apply which is included in the Infrastructure charge from 2020 and any discounts applied as a result of water efficiency and the forecast value of adopted assets. Amp7 value has increased due to the increase in Developer and subsequent Self Lay Provider activity.

Lines 17 -18 - Do not apply as relate to Waste water.

Lines 19 – 23 – Do not apply as relate to Waste water.

Lines 24 – 29 - Do not apply as relate to Waste water.

Lines 30 – 32 - Do not apply as relate to Waste water.

Table I

Band A reflects “Single properties and multiple properties where connections to existing mains only required”. The 16,153 (55%) of new properties are all provided with contestable services as the scale is too small to make SLP or NAV activity viable, or the services are all contestable and the unit rate varying with volume is accurate for this band.

Band B reflects “2 -10 properties where connecting to new mains”, and covers 0.25% of new properties. It is a small scale band because this situation is unusual, but again this includes a mix of contestable and non-contestable services which we assume that we provide all of the activity.

Band C reflects “11 - 99 properties where connecting to new mains”, and reflects 14% of new properties. Around 80% of these sites are served by SLPs, in line with recent experience which we assume to continue.

Band D reflects “100+ properties where connecting to new mains”, and reflects c33% of new properties. We use the same SLP/ future NAV assumption as Band C as broadly both of these size bands are covered in the market.

Band E – Not used.

Table J – Does not apply as relate to Waste water.

Data is based on historic split of workload between requisition and Self Lay activity.

The costs and then the income offset (calculated at 85% of the requisition and on-site mains costs), are in line with the approach taken in our 2018 “New connection charging arrangements” document.

App29 - Wholesale tax

All values on this table are stated at nominal prices.
The tables include the total activity for the wholesale company only. Information on our approach is set out in section C6.

	LINE DESCRIPTION	Unit	Notes
A	**Brought forward capital allowance pool ~ General 18%**		
1	Brought forward capital allowance 18% ~ Water resources	£m	The basis for the Capital Allowance opening balances used in AMP7 is the value of the Capital Allowance Pools as reported in APR18. These have been extrapolated in line with forecast capital expenditure and consumption of Capital Allowances for the years ending 31st March 2019 and 2020 respectively. The 31 March 2020 pool balances are allocated to Water Resources in the same proportion as the RCV balance is allocated, as recommended in guidance provided by Ofwat and uses the same allocation as the RCV balances, this is taken from App8. The calculation from 17/18 to 2020 is shown below: **Water Wholesale - Extrapolation & Allocation of Capital Allowances**
2	Brought forward capital allowance 18% ~ Water	£m	The basis for the Capital Allowance opening balances used in AMP7 is the value of the Capital Allowance Pools as reported in APR18. These have been extrapolated in line with forecast capital

		Total Wholesale					
		Actual	Forecast			RCV % Split	Opening Balances
		2017-18	2018-19	2019-20		App8	2020-21
18% General Pool							
Brought forward capital allowance balance	£m		49.72	51.96			
Additions in period	£m		13.65	17.18	Water Resources	22.1%	12.51
Capital Allowances used in period	£m		- 11.41	- 12.45	Water Network	77.9%	44.18
Closing Balance	£m	49.719	51.959	56.695		100.0%	56.695
8% Long Life Pool							
Brought forward capital allowance balance	£m		95.34	99.84			
Additions in period	£m		13.18	10.06	Water Resources	22.1%	22.31
Capital Allowances used in period	£m		- 8.68	- 8.79	Water Network	77.9%	78.79
Closing Balance	£m	95.344	99.838	101.105		100.0%	101.105

	LINE DESCRIPTION	Unit	Notes
	network plus		expenditure and consumption of Capital Allowances for the years ending 31st March 2019 and 2020 respectively. The 31 March 2020 pool balances are allocated to Water Network in the same proportion as the RCV balance is allocated, as recommended in guidance provided by Ofwat and uses the same allocation as the RCV balances, this is taken from App8.
3	Brought forward capital allowance 18% ~ Wastewater network plus	£m	Not applicable to Bristol Water
4	Brought forward capital allowance 18% ~ Bioresources	£m	Not applicable to Bristol Water
5	Brought forward capital allowance 18% ~ Dummy control	£m	Not applicable to Bristol Water
6	Total brought forward capital allowance pool ~ General 18%	£m	Calculation
B	**Brought forward capital allowance pool ~ Longlife 8%**		
7	Brought forward capital allowance 8% ~ Water resources	£m	See Line 1
8	Brought forward capital allowance 8% ~ Water network plus	£m	See Line 2
9	Brought forward capital allowance 8% ~ Wastewater network plus	£m	Not applicable to Bristol Water

	LINE DESCRIPTION	Unit	Notes
10	Brought forward capital allowance 8% ~ Bioresources	£m	Not applicable to Bristol Water
11	Brought forward capital allowance 8% ~ Dummy control	£m	Not applicable to Bristol Water
12	Total brought forward capital allowance pool ~ Longlife 8%	£m	Calculation
C	**New capital expenditure**		
13	Proportion of new capital expenditure qualifying for the general (18%) pool ~ Water resources	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital qualifying for the general 18% pool for Water Resources. The movement in year 2022-22 is the result of higher planned capital investment in the year.
14	Proportion of new capital expenditure qualifying for the longlife (8%) pool ~ Water resources	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital qualifying for the general 8% pool for Water Resources. The movement in year 2022-22 is the result of higher planned capital investment in the year.
15	Proportion of new capital expenditure not qualifying for capital allowances ~ Water resources	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital not qualifying for capital allowance for Water Resources. The movement in year 2022-22 is the result of higher planned capital investment in the year.
16	Proportion of new capital expenditure qualifying for a full deduction in the year ~ Water resources	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital qualifying for a full deduction in the year for Water Resources.
17	Proportion of new capital	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate

	LINE DESCRIPTION	Unit	Notes
	expenditure qualifying for a tax deduction based on depreciation ~ Water resources		business area and tax treatment, this has been used to derive the proportion of new capital not qualifying for a tax deduction based on depreciation for Water Resources. The movement in year 2022-22 is the result of higher planned capital investment in the year.
18	Total proportion of new capital expenditure ~ Water resources	%	Calculation
19	Proportion of new capital expenditure qualifying for the general (18%) pool ~ Water network plus	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital qualifying for the general 18% pool for Water Network.
20	Proportion of new capital expenditure qualifying for the longlife (8%) pool ~ Water network plus	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital qualifying for the general 8% pool for Water Network.
21	Proportion of new capital expenditure not qualifying for capital allowances ~ Water network plus	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital not qualifying for capital allowance for Water Network.
22	Proportion of new capital expenditure qualifying for a full deduction in the year ~ Water network plus	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital qualifying for a full deduction in the year for Water Network.
23	Proportion of new capital expenditure qualifying for a tax deduction based on depreciation ~ Water	%	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the proportion of new capital not qualifying for a tax deduction based on depreciation for Water Network.

	LINE DESCRIPTION	Unit	Notes
	network plus		
24	Total proportion of new capital expenditure ~ Water network plus	%	Calculation
25	Proportion of new capital expenditure qualifying for the general (18%) pool ~ Wastewater network plus	%	Not applicable to BW
26	Proportion of new capital expenditure qualifying for the longlife (8%) pool ~ Wastewater network plus	%	Not applicable to BW
27	Proportion of new capital expenditure not qualifying for capital allowances ~ Wastewater network plus	%	Not applicable to BW
28	Proportion of new capital expenditure qualifying for a full deduction in the year ~ Wastewater network plus	%	Not applicable to BW
29	Proportion of new capital expenditure qualifying for a tax deduction based on depreciation ~ Wastewater network plus	%	Not applicable to BW
30	Total proportion of new capital expenditure ~	%	Calculation

	LINE DESCRIPTION	Unit	Notes
	Wastewater network plus		
31	Proportion of new capital expenditure qualifying for the general (18%) pool ~ Bioresources	%	Not applicable to BW
32	Proportion of new capital expenditure qualifying for the longlife (8%) pool ~ Bioresources	%	Not applicable to BW
33	Proportion of new capital expenditure not qualifying for capital allowances ~ Bioresources	%	Not applicable to BW
34	Proportion of new capital expenditure qualifying for a full deduction in the year ~ Bioresources	%	Not applicable to BW
35	Proportion of new capital expenditure qualifying for a tax deduction based on depreciation ~ Bioresources	%	Not applicable to BW
36	Total proportion of new capital expenditure ~ Bioresources	%	Calculation
37	Proportion of new capital expenditure qualifying for	%	Not applicable to BW

	LINE DESCRIPTION	Unit	Notes
	the general (18%) pool ~ Dummy control		
38	Proportion of new capital expenditure qualifying for the longlife (8%) pool ~ Dummy control	%	Not applicable to BW
39	Proportion of new capital expenditure not qualifying for capital allowances ~ Dummy control	%	Not applicable to BW
40	Proportion of new capital expenditure qualifying for a full deduction in the year ~ Dummy control	%	Not applicable to BW
41	Proportion of new capital expenditure qualifying for a tax deduction based on depreciation ~ Dummy control	%	Not applicable to BW
42	Total proportion of new capital expenditure ~ Dummy control	%	Calculation
D	**Disallowable expenditure**		
43	P&L expenditure not allowable as a deduction from taxable trading profits ~ Water resources	£m	Zero No expenditure not allowable as a deduction from taxable trading profits has been allocated to Water Resources

	LINE DESCRIPTION	Unit	Notes
44	P&L expenditure not allowable as a deduction from taxable trading profits ~ Water network plus	£m	The Bristol Water tax forecast uses an estimate of £100k for expenditure not allowable as a deduction from taxable trading profits, this has been inflated to nominal prices and allocated only to Water Network as any split would be arbitrary and have a negligible effect on the final tax numbers.
45	P&L expenditure not allowable as a deduction from taxable trading profits ~ Wastewater network plus	£m	Not applicable to BW
46	P&L expenditure not allowable as a deduction from taxable trading profits ~ Bioresources	£m	Not applicable to BW
47	P&L expenditure not allowable as a deduction from taxable trading profits ~ Dummy control	£m	Not applicable to BW
48	P&L expenditure relating to renewals not allowable as a deduction from taxable trading profits ~ Water resources	£m	Zero There is no forecast expenditure relating to renewals not allowable as a deduction from taxable trading profits.
49	P&L expenditure relating to renewals not allowable as a deduction from taxable trading profits ~ Water network plus	£m	Zero There is no forecast expenditure relating to renewals not allowable as a deduction from taxable trading profits.
50	P&L expenditure relating to	£m	Not applicable to BW

	LINE DESCRIPTION	Unit	Notes
	renewals not allowable as a deduction from taxable trading profits ~ Wastewater network plus		
51	P&L expenditure relating to renewals not allowable as a deduction from taxable trading profits ~ Bioresources	£m	Not applicable to BW
52	P&L expenditure relating to renewals not allowable as a deduction from taxable trading profits ~ Dummy control	£m	Not applicable to BW
53	Change in general provisions ~ Water resources	£m	Zero There are assumed to be no provisions in the financial modelling for AMP7.
54	Change in general provisions ~ Water network plus	£m	Zero There are assumed to be no provisions in the financial modelling for AMP7.
55	Change in general provisions ~ Wastewater network plus	£m	Not applicable to BW
56	Change in general provisions ~ Bioresources	£m	Not applicable to BW
57	Change in general provisions ~ Dummy control	£m	Not applicable to BW

	LINE DESCRIPTION	Unit	Notes
E	**Allowable expenditure**		
58	Allowable depreciation on capitalised revenue expenditure (infra & non-infra) ~ Water resources	£m	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the allowable depreciation on capitalised revenue expenditure for Water Resources.
59	Allowable depreciation on capitalised revenue expenditure (infra & non-infra) ~ Water network plus	£m	The detailed capital investment plan for AMP7 allocates each investment to the appropriate business area and tax treatment, this has been used to derive the allowable depreciation on capitalised revenue expenditure for Water Network.
60	Allowable depreciation on capitalised revenue expenditure (infra & non-infra) ~ Wastewater network plus	£m	Not applicable to BW
61	Allowable depreciation on capitalised revenue expenditure (infra & non-infra) ~ Bioresources	£m	Not applicable to BW
62	Allowable depreciation on capitalised revenue expenditure (infra & non-infra) ~ Dummy control	£m	Not applicable to BW
63	Finance lease depreciation ~ Water resources	£m	Zero There are no finance leases attributable to Water resources
64	Finance lease depreciation ~ Water network plus	£m	Finance lease depreciation is based on the schedule of finance lease obligations and associated run off of depreciation this is diminishing over time and is all attributable to Water Network.
65	Finance lease depreciation	£m	Not applicable to BW

	LINE DESCRIPTION	Unit	Notes
	~ Wastewater network plus		
66	Finance lease depreciation ~ Bioresources	£m	Not applicable to BW
67	Finance lease depreciation ~ Dummy control	£m	Not applicable to BW
F	**Other taxable income**		
68	Grants and contributions taxable on receipt ~ Water resources	£m	Zero There are assumed to be no grants and contributions taxable on receipt for Water resources.
69	Grants and contributions taxable on receipt ~ Water network plus	£m	Zero There are assumed to be no grants and contributions taxable on receipt for Water network.
70	Grants and contributions taxable on receipt ~ Wastewater network plus	£m	Not applicable to BW
71	Grants and contributions taxable on receipt ~ Bioresources	£m	Not applicable to BW
72	Grants and contributions taxable on receipt ~ Dummy control	£m	Not applicable to BW
73	Amortisation on grants and contributions ~ Water resources	£m	Zero Grants and contributions have been accounted for within the Investment Plan which drives the Asset Pools for capital allowances and thus no additional adjustment is required. There are no non developer services grants.
74	Amortisation on grants and contributions ~ Water	£m	Zero Grants and contributions have been accounted for within the Investment Plan which drives the

	LINE DESCRIPTION	Unit	Notes
	network plus		Asset Pools for capital allowances and thus no additional adjustment is required. There are no non developer services grants.
75	Amortisation on grants and contributions ~ Wastewater network plus	£m	Not applicable to BW
76	Amortisation on grants and contributions ~ Bioresources	£m	Not applicable to BW
77	Amortisation on grants and contributions ~ Dummy control	£m	Not applicable to BW
78	Other adjustments to taxable profits ~ Water resources	£m	Zero There are no other adjustments to taxable profits for Water resources.
79	Other adjustments to taxable profits ~ Water network plus	£m	Zero There are no other adjustments to taxable profits for Water network.
80	Other adjustments to taxable profits ~ Wastewater network plus	£m	Not applicable to BW
81	Other adjustments to taxable profits ~ Bioresources	£m	Not applicable to BW
82	Other adjustments to taxable profits ~ Dummy control	£m	Not applicable to BW
G	**Brought forward losses**		

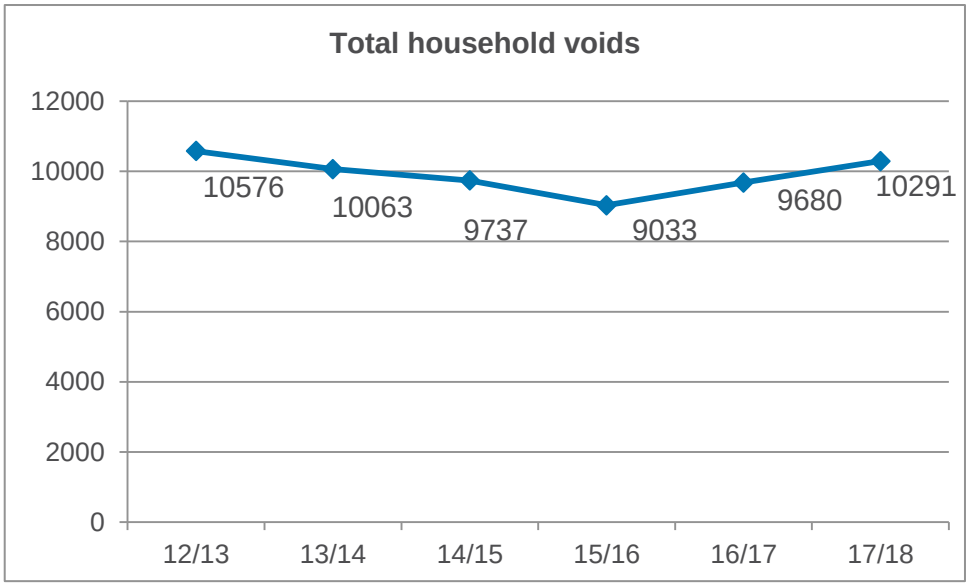
	LINE DESCRIPTION	Unit	Notes
83	Brought forward losses ~ Water resources	£m	Zero There are no brought forward losses forecasted for Water resources.
84	Brought forward losses ~ Water network plus	£m	Zero There are no brought forward losses forecasted for Water network.
85	Brought forward losses ~ Wastewater network plus	£m	Not applicable to BW
86	Brought forward losses ~ Bioresources	£m	Not applicable to BW
87	Brought forward losses ~ Dummy control	£m	Not applicable to BW
H	**Statutory corporation tax rate**		
88	Statutory corporation tax rate	%	17% Corporation Tax has been used within AMP7 being the statutory rate expected at the commencement of AMP7, it is assumed the Corporation Tax rate does not change within AMP7.

App30 - Voids

Household voids

Our analysis shows that we already have some of the lowest void numbers relative to other water industry companies. Our void rate has been 2.0% on average over the last 5 years (2.1% for 17/18), which is in line with Local Authority held information on vacant properties in our area, although this depends on the data set used. In comparison the water industry upper quartile is currently 2.3%. Notwithstanding our performance to date, we have set ourselves the challenge to reduce voids still further and have set a target of 1.8% by the 2025.

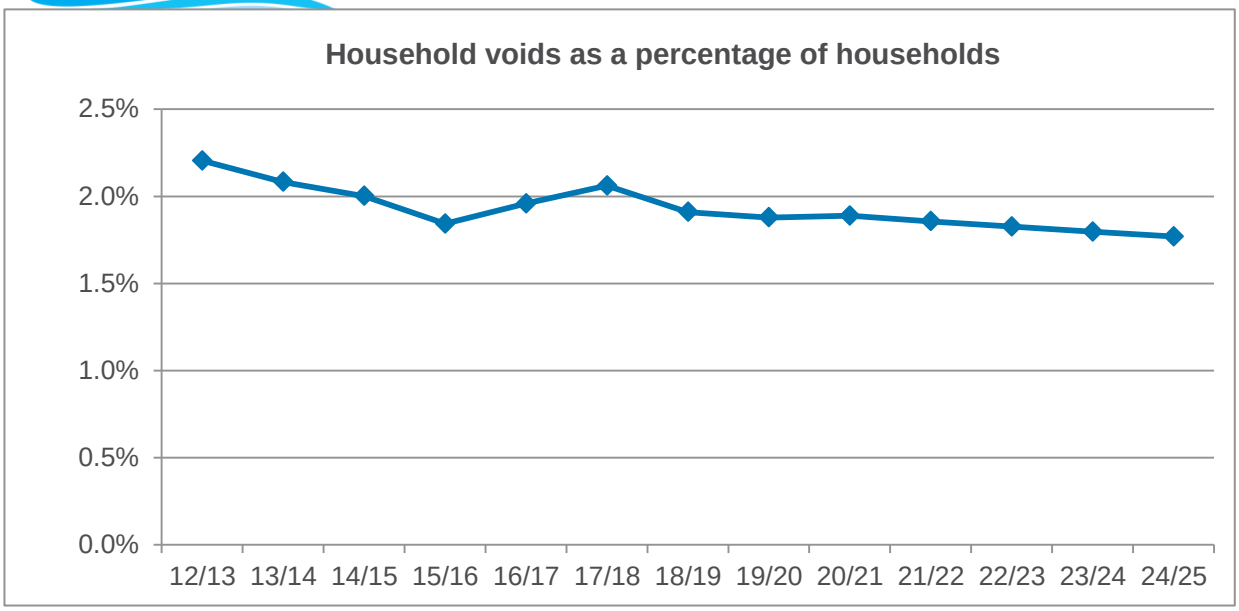
We have experienced an increase in void properties in the past two years, some of which is due to increasing property numbers. Nevertheless this is a trend we intend to reverse before 2020 and through our business plan.



Our targets and incentives

We have set our target based on our aspiration to improve our void performance still further – approaching frontier levels for the industry.

The reduction is equivalent to around 1,000 properties, although the absolute number of voids stays relatively flat as the number of household properties increases.



Business voids

The number of actual voids (17/18) and predicted void properties (out to 2025) for Non-Household has been based on data held within the Central Market Operating System (CMOS).

Following the opening of the retail market on 1 April 2017, Retailers became responsible for the status of occupied and unoccupied Non-Household Supply Points Identifications. However Bristol Water has already implemented a regular programme to investigate the number of Non-Household voids in our area of supply.

If we believe a property should not be in a void status then all information and evidence that we have gathered either from a desk top study or site visit is presented to the relevant Retailer. The market is then reliant on the retailer to update the status in CMOS.

The total number of Non-Household voids at market opening in our area was 687 (2.05% of SPID's). After the first year of the market, there has been a slight increase to 2.21% of Supply Points Identifications.

Our proposed target void rate is 2.13% over AMP7. Based on analysis of historic data, we believe this rate to be reflective of the genuine number of un-occupied business properties for our area. This is based on the historic void data in CMOS and predicted new connections, de-registrations and registrations

App31 - Past Performance

We provide a full description of our past performance and where appropriate lessons learned in section C7 of our plan. A1 describes our overall business performance.

Block A: Complaints from residential and business customers

Line 1: Stage 1 complaints received

The source of information is from annual SIM reporting, with a forecast also provided:

Household service incentive mechanism calculator

Line description		Item reference	Units	DPs	2015-16	2016-17	2017-18	2018-19	2019-20
A	**Quantitative performance**								
1	Unwanted telephone contacts		nr	0	30,012	26,229	35,882	26,220	26,220
2	Written complaints		nr	0	666	1,028	1,474	852	767
3	Escalated written complaints		nr	0	46	81	88	60	54
4	CCWater escalated complaints		nr	0	0	0	0	0	0
5	Quantitative composite score	calc	nr	0	77.11	79.45	103.56	71.77	68.97
6	Quantitative SIM score (out of 25)	calc	nr	2	21.14	21.03	19.82	21.41	21.55
B	**Qualitative performance**								
7	Annual survey score		nr	2	4.41	4.46	4.39	4.50	4.50
8	Qualitative SIM score (out of 75)	calc	nr	2	63.94	64.88	63.56	65.63	65.63
C	**SIM score**								
9	Total annual SIM score (out of 100)	calc	nr	1	85.08	85.90	83.38	87.04	87.18
D	**Properties denominator**								
10	Number of household properties connected for water supply only		nr	0	492,046	496,778	502,633	508,267	514,076
11	Number of household properties connected for water and sewerage services		nr	0					
12	Number of household properties connected for sewerage services only		nr	0					
15	Total connected household properties	calc	nr	0	492,046	496,778	502,633	508,267	514,076

This calculator should be used with 'IN 15/03 Guidance on collecting information for the service incentive mechanism from 1 April 2015'

Please note that 2017/18 was an outlier due to exceptional incidences. The 17% reduction for stage ones for year 2018-19 is ambitious and aims to get us back on track for the end of the AMP and is the target we are using for our KPI reporting this year. The 2019/20 reduction is 10% based on the improvement projects within our customer strategy.

Line2: Complaints escalated internally to stage 2
The forecasts are a step change in strategy, as we plan to resolve as many stage 1 complaints as possible. Forecasts are a glide path and enabler to achieve upper quartile J1 (SIM score).

Line 3 Complaints referred to CC Water
2015-16, 2016-17 & 2017-18 data provided by CC Water – see CC Water End of Year Reports https://www.ccwater.org.uk/households/company-performance/annualcomplaints/

Forecasts are driven by the target of reducing complaints and managing stage 1 and 2 complaints to resolution without the customer having to refer to CC Water. This will be driven by a step change in managing complaints going forward. 2017/18 shows an improvement this year, so we have taken a conservative view of 10% reduction for future years.
Line 4 Investigations Opened by CC Water
Zero investigations – both actual and forecast based on track record.

Line 5 Complaints investigated by Ofwat or WATRS
Forecast is a conservative figure based on historical performance.

2015/16 Details

Aquamain case:

This was an appeal to Ofwat under section 51B of the Water Industry Act 1991, concerning the charges required by Bristol Water in relation to self-lay works for the Combination Club development, Lockleaze. Ofwat considered that the principle of the charge for costs Bristol Water incurs in administering self-laid service connections was valid. However, the level and timing of that charge should be different from that originally proposed by Bristol Water as a term in the Agreement. As a result of this case, we amended our non-physical connection administration charge.

s.45(6A) and section 30A WIA91 case:

This was a case about the reasonableness of connection costs. Ofwat found that Bristol Water's connection administration costs were reasonable, based on the Hyder report. We have improved our response and record keeping in light of this case, to improve our speed of response to complaints.

2016 Details

One WATRS adjudication case related to providing a specific helpline for water efficiency and metering /rebates. The adjudication found in Bristol Water's favour as there was no standard of service or evidence to justify upholding the claim. We have increased the level of meter promotion and we now meter on change of occupancy, which in itself would avoid the circumstances of this case, even though no fault was found.

2017 Details

One WATRS adjudication related to a claim for £100 compensation following a burst on a strategic main. This was related to the burst at Willsbridge, and the interruption to supply for this property was c20 hours. Water was delivered to the customer and a £20 ex-gratia payment was offered, which was rejected. Given the service provided and widespread communication of the incident, no fault was found in Bristol Water and the complaint not upheld. We published lessons learned from Willsbridge in our recent performance reporting and there is a case study in section A1.

B Major Incidents
Line: 6 Total number of major incidents – zero – evidence provided by published DWI annual reports which do not list any major incidents for Bristol Water. The DWI website also lists cautions and prosecutions – zero for lines 14 and 15.

D Compliance with DWI statutory requirements
Line14 -Formal cautions for breach of drinking water quality requirements - zero

Line15 - Completed prosecutions for breach of drinking water quality requirements - zero

E Compliance with Ofwat regulatory requirements
Line16 - Completed enforcement action taken under the Water Industry Act 1991 and the licence Zero Return.

Line 17 - Completed enforcement action taken under competition law
Attached is a link to the Ofwat case number IB04/15, which provides full details. This is an on-going commitment related to developer services in lieu of enforcement action. Independently audited quarterly reporting against the commitments, which required structural changes from Bristol Water developer services activity, continue to be provided as a result of this case.
https://www.ofwat.gov.uk/ib0415-ofwat-accepts-commitments-from-bristol-water/

Ofwat found from a complaint in 2013 that Bristol Water had used its dominant position to harm competition in the contestable market of providing new water connections, making it difficult for SLOs to operate in Bristol Water's area. Effective competition can deliver benefits for customers, offering choice and acting as a driver for more customer-focused, efficient and innovative services.

App32 - Weighted average cost of capital for the Appointee Wn5 - Weighted average cost of capital for the water network plus control Wr5 - Weighted average cost of capital for the water resources control

Proposed Cost of Capital and Company-Specific Adjustment

Full details of our approach to calculating the values used for the Company-Specific Adjustment to the cost of debt and justification for our approach can be found in section C6 of our business plan.

Comments on method for producing data
As these three tables all cover the Company's proposed Weighted Average Cost of Capital, and the values calculated and approach taken are the same, a single commentary has been produced to cover all three tables.

Inputs

This table takes inputs from:

- Ofwat PR19 Methodology (appendix 12)
- Bristol Water calculation of adjustments to cost of debt in relation to small company premium

We note that the format of this table requires inputs to 2dp. All inputs have been entered on this basis. We note that this creates minor differences between the WACC proposed within our business plan of 5.64% and the Wholesale WACC notional value of 5.63% shown in App32 and 5.61% in WR5 and WN5. We have used the data table inputs through our modelling, which means that these lower figures have been applied.
In order to replicate the calculation of 5.64% the following inputs are required to greater than 2dp:
WR5/WN5 line 6 = 0.354
App32 line 6 = 77.375%, line 11 5.204%.

Inputs to data table lines:
Gearing: App32 Lines 1 & 21, WR5 & WN5 Lines 1 & 11
These lines are the forecast balance between debt and equity. For the notional structure we have adopted Ofwat's parameter of 60%. For the actual structure we assume 65%. This figure reflects an increase on the 63.96% reported in the 2017-18 APR, a forecast c.64% at the end of 2019/20 and c.66% following the midnight adjustments on 1 April 2020, largely due to the CIS adjustment outstanding from 2010-15. Therefore we use 65% as a broad assumption for the actual gearing structure.

Total Market Return: App32 Lines 2 & 22, WR5 & WN5 Lines 2 & 12
This line represents an estimate of the total yield required by investors to invest in a well-diversified benchmark index (e.g. the FTSE All-Share). For this line we have applied the rate of 8.60% as proposed by Ofwat in its methodology (appendix 12, table 1).

Risk free rate: App32 Lines 3 & 23, WR5 & WN5 Lines 3 & 13
This is the estimated return for investment in an asset with zero risk. For this line we have applied the rate of 2.10% as proposed by Ofwat in its methodology (appendix 12, table 1).

Equity Risk Premium: App32 Lines 4 & 24, WR5 & WN5 Lines 4 & 14
This is calculated as the difference between the total market return (line 2) and the risk free rate (line 3).

Debt Beta: App32 Lines 5 & 25, WR5 & WN5 Lines 5 & 15
This is a measure of undiversifiable risk faced by debt investors in water. We have applied the figure of 0.10 as proposed by Ofwat in its methodology (appendix 12, table 1).

Raw equity beta for listed company comparator: App32 Lines 6 & 26
This is calculated by dividing the beta value of 0.310 by one minus the gearing rate shown in line 1 or 21.
The beta value is derived using goal seek to allow the re-levered equity beta shown in line 9 to equal the value of 0.77 set out in Ofwat's methodology (Appendix 12 page 17)

Actual gearing of listed company comparator: App32 Lines 7 & 27
This value is equal to the notional gearing rate shown in line 1.

Asset Beta: App32 Lines 8 & 28, WR5 & WN5 Lines 6 & 16
This figure is calculated using a goal-seek to derive the required cost of debt. This calculation reflects the impact of the company-specific adjustment on the cost of debt.
A separate calculation is applied for the calculation based on the Company's actual structure to enter in lines 28 and 16.
Note that due to the use of the goal-seek approach, the values shown in App32 are different to those in WR5 & WN5.

Re-levered Equity Beta: App32 Lines 9 & 29, WR5 & WN5 Lines 7 & 17
This line is calculated as the asset beta minus gearing multiplied by the debt beta, divided by 1-gearing

Overall Cost of Equity: App32 Lines 10 & 30, WR5 & WN5 Lines 8 & 18
This line is calculated as the risk free rate (line 3) plus the relevered equity beta (line 7) multiplied by the equity risk premium (line 4)

Overall Cost of Debt: App32 Lines 11 & 31, WR5 & WN5 Lines 9 & 19
The values for this line represent forecasts of the average interest costs that would be associated with new debt instruments taken out within the period and the costs of instruments already in place.
Calculated as (cost of embedded debt + issuance and liquidity costs) x ratio of embedded debt to new debt + (cost of new debt + issuance and liquidity costs) x (1-ratio of embedded debt to new debt).
The calculation is based on the following components:

Item	App32 Lines	Value	
Cost of embedded debt	11 & 31	5.20%	A
Cost of new debt	12 & 32	3.55%	B
Ratio of embedded debt to new debt	13 & 33	70:30	C
Issuance and liquidity costs	14 & 34	0.10%	D

Item	App32 Lines	Value	
Overall cost of debt	15 & 35	4.81%	= ((A+D)xC) + ((B+D)xC)

Cost of Embedded debt (App32 lines 11 & 21)
(Real cost of debt [4.29%] x Gearing [60%]) + (TMR [8.60%] x Beta [0.77] * (1-Gearing [60%]))
Real cost of debt
Existing debt [3.02%] x (1-ratio new debt [30%]) + New debt [1.41%] x ratio new debt [30%]+issuance costs [0.1%] x ratio new debt [30%] + risk free rate [-0.88%].
Existing debt
1.59% - Risk free rate [-0.88%] + 0.55%. The 1.59% is the Real (RPI) value as published by Ofwat in its methodology (chapter 12 page 16). The 0.55% represents the company-specific adjustment element.

Cost of new debt (App32 lines 12 & 32)
(1+0.53%) x (1+0.03))-1
0.53% = 1.41%+RFR[-0.88%]. The -0.88% is the Real (RPI) value as published by Ofwat in its methodology (chapter 12 page 16).
1.41% = -RFR [-0.88%]+0.38%+0.15%. The 0.15% represents the company-specific adjustment element. The 0.38% is the Real (RPI) value is published by Ofwat in its methodology (chapter 12 page 17).
Ratio of embedded debt to new debt (App32 line 13 & 33)
70:30 this value is as published by Ofwat in its methodology (chapter 12 page 17).
Issuance and liquidity costs (App32 line 14 & 34)
0.1% this value us as published by Ofwat in its methodology (chapter 12 page 17).
WACC ~ vanilla (pre-tax cost of debt and post-tax cost of equity) – App32 Lines 16 & 36, WR5 & WN5 Lines 17 & 37.

Calculated as gearing (line 1) multiplied by cost of debt (line 15 / 9) plus 1-gearing multiplied by cost of equity (line 10 / 8)
Tax (marginal rate of corporation tax) – App32 lines 17 & 37
The figure of 17% is in line with the government statement that rates will be 17% for the year starting 1st April 2020.
https://www.gov.uk/government/publications/rates-and-allowances-corporation-tax/rates-and-allowances-corporation-tax
WACC – fully post tax – App32 line 18 & 38
This is calculated as gearing x overall cost of debt x (1- tax) + overall cost of equity x (1-gearing)
Retail margin deduction – App32 Lines 19 & 39
A figure of 0.10% has been applied as a deduction to derive WACC for wholesale operations. This is taken from the value published by Ofwat in its methodology (chapter 12 page 18).
Wholesale WACC – App 32 lines 20 & 40, WR5 & WN5 lines 10 & 20
In App32 this is calculated as the Vanilla WACC (lines 16 & 36) less the retail margin deduction (lines 19 & 39).
In WR5 and WN5 this is calculated as the gearing x the cost of debt + (1 – gearing) x the cost of equity.

App33 - Wholesale operating leases reclassified under IFRS16

We did not disclose any operating lease activity in our 2017/18 accounts. Additionally our business plan forecasts do not include any expenditure that we would expect to result in new operating leases.

Therefore we are completing a nil return for the operating lease sections (WS1a/App33) of our PR19 submission. We are going through a full IFRS16 exercise to identify any contracts that may be considered operating leases under IFRS16; so far there is no indication that this is the case.

WS1 - Wholesale water operating and capital expenditure by business unit

All values on this table are stated in Outturn costs for AMP6 and 2017-18 FYA (CPIH deflated) for AMP7.

2017/18 actuals are used as the base for our forecast. This is adjusted to remove one off items which we would not expect to reoccur in future years. This removes the impact of one off credits and aligns our third party rechargeable costs to historic levels whilst being consistent with related revenue assumptions. The net impact is a small uplift to the base of £0.06m per annum.

The splits between the different business units are based on 2017/18 actuals, adjusted for the changes for principle use depreciation which are set out below. Future expenditure assumptions and efficiencies by business unit are set out in both App24 and the B1, B2 and C5 sections of the plan.

With no IFRS16 adjustment, WS1a is identical to WS1

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Operating expenditure (excluding Atypical expenditure)</td></tr>
<tr><td>1</td><td>Power</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7
A summary of the adjustments are listed below:

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>8.723</td><td>8.723</td><td>8.723</td><td>8.723</td><td>8.723</td><td>43.615</td></tr>
<tr><td>Opex impact of AMP7 Investment Plan</td><td>0.000</td><td>-0.019</td><td>-0.017</td><td>-0.068</td><td>-0.069</td><td>-0.174</td></tr>
<tr><td>New Connections</td><td>0.208</td><td>0.274</td><td>0.338</td><td>0.402</td><td>0.463</td><td>1.684</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.459</td><td>0.596</td><td>0.735</td><td>0.875</td><td>1.017</td><td>3.681</td></tr>
<tr><td>Efficiency</td><td>-1.794</td><td>-1.885</td><td>-1.997</td><td>-2.142</td><td>-2.308</td><td>-10.126</td></tr>
<tr><td>Total</td><td>7.596</td><td>7.688</td><td>7.782</td><td>7.788</td><td>7.826</td><td>38.681</td></tr>
</table>
</td></tr>
</table>

	Line Description	Unit	Notes
			Opex impact of AMP7 Investment plan – Shows some reduction as we implement more power efficient assets and processes **New Connections** – Power is a cost directly related to the supply of water. Thus with an increase is customers per WS3 our power usage increases **Input Price pressure** – We have used 1.8% as indicated in our report from NERA. This is a combined average increase figure for Opex over AMP7 This number was used instead of the 4.0% indicated for Power (from the NERA report) as the resulting total was more in line with our energy suppliers forecast Ultimately however our power cost whilst also driven by consumption (which we have driven down greatly in our efficiency) is dependent upon the market price, which is highly volatile **Efficiency** – Based off our target efficiency number (as discussion in greater detail in Section C5 of the narrative). We looked within the business how we could best optimise our current operation. This provided us with areas from to which we could then allocate our efficiency target to best reflect potential efficiency projects To achieve this power usage reduction we are investing in Solar Panels, a gas power station, optimising our pumping schedules and various other initiatives
2	Income treated as negative expenditure	£m	A small credit was received in 2017/18 and is expected to be immaterial going forwards therefore we have forecast zero for amp7
3	Abstraction Charges / Discharge consent	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7**

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>2.878</td><td>2.878</td><td>2.878</td><td>2.878</td><td>2.878</td><td>14.390</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.156</td><td>0.209</td><td>0.262</td><td>0.317</td><td>0.373</td><td>1.317</td></tr>
<tr><td>Efficiency</td><td>-0.094</td><td>-0.094</td><td>-0.094</td><td>-0.094</td><td>-0.094</td><td>-0.470</td></tr>
<tr><td>Total</td><td>2.940</td><td>2.993</td><td>3.045</td><td>3.100</td><td>3.157</td><td>15.237</td></tr>
</table>

Input Price pressure – 1.8% is expected (above CPIH) for the Amp as indicated in our report from NERA
Efficiency – Efficiencies shown align the expenditure to 18/19 expectations before IPP</td></tr>
<tr><td>4</td><td>Bulk supply</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>0.138</td><td>0.138</td><td>0.138</td><td>0.138</td><td>0.138</td><td>0.690</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.007</td><td>0.009</td><td>0.011</td><td>0.014</td><td>0.016</td><td>0.056</td></tr>
<tr><td>Efficiency</td><td>-0.022</td><td>-0.022</td><td>-0.022</td><td>-0.022</td><td>-0.022</td><td>-0.110</td></tr>
<tr><td>Total</td><td>0.123</td><td>0.124</td><td>0.128</td><td>0.130</td><td>0.131</td><td>0.637</td></tr>
</table>

Input Price pressure – 1.8% is expected (above CPIH) for the AMP as indicated in our report from NERA
Efficiency – Efficiencies shown align the expenditure to 18/19 expectations before IPP
Zero cost - The following business categories are zero
• Raw water distribution</td></tr>
<tr><td>5</td><td>~ Renewals expensed in year (Infrastructure)</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP</td></tr>
</table>

	Line Description	Unit	Notes
			AMP7 **AMP6 Additional Opex Spend – Active Leakage Control** - Once AMP7 commences, the average network leakage will be considered business as usual, rather than achieving a step change. Therefore the resources procured in AMP6 will be required to maintain the leakage level and thus becomes opex from capex. **Input Price pressure** – 1.8% is expected (above CPIH) for the Amp as indicated in our report from NERA **Efficiency** – Based off our target efficiency number (as discussion in greater detail in Section C5 of the narrative). We looked within the business how we could best optimise our current operation. This provided us with areas from to which we could then allocate our efficiency target to best reflect potential efficiency projects. A number of these project related to labour and materials, hence we expect to make a material reduction for AMP7 **Zero cost -** The following business categories are zero • Water Treatment
6	~ Renewals expensed in year (Non-	£m	None expected

	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7
17/18 Adjusted Base	2.425	2.425	2.425	2.425	2.425	2.425
AMP6 Additional Opex Spend - Active Leakage Control	0.706	0.706	0.706	0.706	0.706	3.530
Input Price Pressure (IPP)	0.145	0.201	0.257	0.314	0.371	1.288
Efficiency	-0.148	-0.180	-0.231	-0.281	-0.352	-1.192
Total	3.128	3.152	3.157	3.165	3.151	6.051

	Line Description	Unit	Notes
	Infrastructure)		
7	~ Other operating expenditure excluding renewals	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** **Opex impact of AMP7 Investment plan** – Increase in labour and material costs early in the amp, later offset by process improvements these investments delivery **Remaining Business Retail Costs** – During 2016/17 we exited the Business retail market. However we have remaining developer service costs in the business. These have been allocated by two different approaches • AMP 6 Approach – Business Retail costs to be excluded from Retail Household Reporting and remaining in Business Retail for the AMP to ensure a consistent reporting approach • AMP 7 Approach – Business Retail costs are no longer shown in retail and the costs therefore must are reflected in Wholesale for the Amp. Based off 2017/18 numbers these costs were then posted to WS1 Line 7 and Line 8 Treated water distribution lines.

	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7
17/18 Adjusted Base	32.997	32.997	32.997	32.997	32.997	164.985
Opex impact of AMP7 Investment Plan	0.809	0.261	-0.013	-0.262	-0.392	0.403
Business Retail Costs	0.655	0.655	0.655	0.655	0.655	3.277
New Connections	0.098	0.129	0.159	0.189	0.218	0.793
Input Price Pressure (IPP)	1.839	2.456	3.075	3.699	4.335	15.403
Efficiency	-1.413	-1.667	-1.887	-2.077	-2.232	-9.276
Principle Usage Recharge	-0.508	-0.612	-0.648	-0.634	-0.584	-2.986
Total	34.479	34.221	34.341	34.568	34.998	172.606

Line Description	Unit	Notes
		New Connections – Materials are a cost directly related to the supply of water. Thus with an increase in customers per WS3 our materials usage increases. **Input Price pressure** – 1.8% is expected (above CPIH) for the AMP as indicated in our report from NERA **Efficiency** – Based off our target efficiency number (as discussion in greater detail in Section C5 of the narrative). We looked within the business how we could best optimise our current operation. This provided us with areas from to which we could then allocate our efficiency target to best reflect potential efficiency projects. A number of these project related to labour and materials, hence we expect to make a material reduction in this cost for AMP7 **Principle Usage Recharge** – Where an asset is principally used by wholesale, the capex and depreciation should be recorded in wholesale with a recharge made to household retail to reflect the proportion of the asset used by residential retail. This recharge covers depreciation. This adjustment will cause a variance in the 2017/18 cost of £-0.680m when compared to the APR.

	For the 12 months ended 31 March 2018				
£m	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total
Total operating expenditure	11.827	0.777	14.202	25.755	52.561
Principal Use Recharge (3dp)	-0.135	-0.012	-0.198	-0.335	-0.680
Total ex PUR	11.962	0.789	14.400	26.090	53.241
Check vs APR / ws15	11.962	0.789	14.400	26.090	53.241
Difference	0.000	0.000	0.000	0.000	0.000

Below are values comparing WS1 to R1 Datatable (which remains in nominal values post 2019/20)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7
WS1 Principle Usage Recharge	- 0.680	- 0.435	- 0.482	-0.508	-0.612	-0.648	-0.634	-0.584	-2.986
R1 Principle Usage Recharge	0.680	0.435	0.482	0.540	0.662	0.715	0.714	0.671	3.302

	Line Description	Unit	Notes
8	Local authority and Cumulo rates	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** **Business Retail Costs** – Remaining costs which were previously Business Retail (of which the business has now been sold) moves to wholesale in AMP7. There is a small cost related to rates which is too small to be shown in the table **Input Price pressure** – 1.8% is expected (above CPIH) for the AMP as indicated in our report from NERA **Efficiency** – Efficiencies shown align the expenditure to 18/19 expectations before IPP
9	Total operating expenditure excluding third party services		Calculation **2017/18 Variance to APR**

	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7
17/18 Adjusted Base	4.802	4.802	4.802	4.802	4.802	24.010
Input Price Pressure (IPP)	0.263	0.351	0.442	0.534	0.629	2.219
Efficiency	-0.100	-0.100	-0.100	-0.100	-0.100	-0.500
Total	4.965	5.054	5.145	5.235	5.332	25.731

	For the 12 months ended 31 March 2018				
£m	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total
Total operating expenditure	11.827	0.777	14.202	25.755	52.561
Principal Use Recharge	-0.135	-0.012	-0.198	-0.335	-0.680
Total ex PUR	11.962	0.789	14.400	26.090	53.241
Check vs APR / ws15	11.962	0.789	14.400	26.090	53.241
Difference	0.000	0.000	0.000	0.000	0.000

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>Principle Usage Recharge –
Where an asset is principally used by wholesale, the capex and depreciation should be recorded in wholesale with a recharge made to household retail to reflect the proportion of the asset used by residential retail. This recharge covers depreciation.

This adjustment will cause a variance in the 2017/18 cost of £-0.680m when compared to the APR.</td></tr>
<tr><td>10</td><td>Third party services</td><td>£m</td><td>AMP6

2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>1.552</td><td>1.552</td><td>1.552</td><td>1.552</td><td>1.552</td><td>7.760</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.072</td><td>0.096</td><td>0.121</td><td>0.146</td><td>0.172</td><td>0.606</td></tr>
<tr><td>Efficiency</td><td>-0.274</td><td>-0.274</td><td>-0.274</td><td>-0.274</td><td>-0.274</td><td>-1.368</td></tr>
<tr><td>Total</td><td>1.350</td><td>1.374</td><td>1.399</td><td>1.424</td><td>1.451</td><td>6.998</td></tr>
</table>

Input Price pressure – 1.8% is expected (above CPIH) for the AMP as indicated in our report from NERA
Efficiency – Aligned to the 18/19 Budget which ties into the related revenue assumptions and represents a better long term view on rechargeable work.
Zero cost - The following are business categories are zero
• Raw water distribution</td></tr>
<tr><td>11</td><td>Total operating expenditure</td><td>£m</td><td>Calculation</td></tr>
<tr><td>B</td><td colspan="3">Capital Expenditure (excluding Atypical expenditure)</td></tr>
</table>

	Line Description	Unit	Notes
12	Maintaining the long term capability of the assets ~ infra	£m	**Amp6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** Our AMP7 capital expenditure figures have been generated through our PR19 Investment Planning processes, which has been externally assured. Details can be found in PR19 Investment Cases Summary Document. The output from the PR19 Investment Planning process is a complete programme of individual capital interventions to address our AMP7 risks and needs. The interventions have been categorised in accordance with RAG guidelines for WS1 line descriptions and water service area, and profiled in line with the yearly expenditure profile used as part of our financial modelling. Capital income relating to Grants and contributions have been reported in WS1 against the corresponding water service area category and year. For further guidance please see the PR19 Investment Cases Summary Document **Input Price Pressure and Efficiency** Once the investment plan was complete an 8% reduce per annum was applied to our forecast to account for One-off Efficiency. Frontier Efficiency and Input Price Pressure are -0.9% and 0.9% so cancel each other out. We feel this represents a challenging but efficient target
13	Maintaining the long term capability of the assets ~ non-infra	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** Our AMP7 capital expenditure figures have been generated through our PR19 Investment Planning processes, which has been externally assured. Details can be found in PR19 Investment Cases Summary Document. The output from the PR19 Investment Planning process is a complete programme of individual

	Line Description	Unit	Notes
			capital interventions to address our AMP7 risks and needs. The interventions have been categorised in accordance with RAG guidelines for WS1 line descriptions and water service area, and profiled in line with the yearly expenditure profile used as part of our financial modelling. Capital income relating to Grants and contributions have been reported in WS1 against the corresponding water service area category and year. For further guidance please see the PR19 Investment Cases Summary Document **Input Price Pressure and Efficiency** Once the investment plan was complete an 8% reduce per annum was applied to our forecast to account for One-off Efficiency. Frontier Efficiency and Input Price Pressure are -0.9% and 0.9% so cancel each other out. We feel this represents a challenging but efficient target
14	Other capital expenditure ~ infra	£m	**AMP6** 2017/18 - On our previous APR submission in tables 4D and 4L there is a differences to the two approaches taken for splitting SEMD expenditure across the Water Service categories and the two tables do not reconcile at a business category level, which wasn't a requirement for the submission. In WS1 and WS2 these are required to reconcile. We have achieved this for 17/18 by aligning the approach taken for splitting SEMD expenditure. The APR will require an adjustment. 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** Our AMP7 capital expenditure figures have been generated through our PR19 Investment Planning processes, which has been externally assured. Details can be found in PR19 Investment Cases Summary Document. The output from the PR19 Investment Planning process is a complete programme of individual capital interventions to address our AMP7 risks and needs. The interventions have been categorised in accordance with RAG guidelines for WS1 line descriptions and water service area, and profiled in line with the yearly expenditure profile used as part of our financial modelling. Capital income relating to Grants and contributions have been

	Line Description	Unit	Notes
			reported in WS1 against the corresponding water service area category and year. For further guidance please see the PR19 Investment Cases Summary Document **Input Price Pressure and Efficiency** Once the investment plan was complete an 8% reduce per annum was applied to our forecast to account for One-off Efficiency. Frontier Efficiency and Input Price Pressure are -0.9% and 0.9% so cancel each other out. We feel this represents a challenging but efficient target **Zero cost -** The following are business categories are zero • Water resources • Raw water distribution • Water treatment
15	Other capital expenditure ~ non-infra	£m	**AMP6** 2017/18 - On our previous APR submission in tables 4D and 4L there is a differences to the two approaches taken for splitting SEMD expenditure across the Water Service categories and the two tables do not reconcile at a business category level, which wasn't a requirement for the submission. In WS1 and WS2 these are required to reconcile. We have achieved this for 17/18 by aligning the approach taken for splitting SEMD expenditure. The APR will require an adjustment. This is shown at the end of this commentary. 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** Our AMP7 capital expenditure figures have been generated through our PR19 Investment Planning processes, which has been externally assured. Details can be found in PR19 Investment Cases Summary Document. The output from the PR19 Investment Planning process is a complete programme of individual capital interventions to address our AMP7 risks and needs. The interventions have been categorised in accordance with RAG guidelines for WS1 line descriptions and water service area, and profiled in line with the yearly expenditure profile used as

	Line Description	Unit	Notes
			part of our financial modelling. Capital income relating to Grants and contributions have been reported in WS1 against the corresponding water service area category and year. For further guidance please see the PR19 Investment Cases Summary Document **Input Price Pressure and Efficiency** Once the investment plan was complete an 8% reduce per annum was applied to our forecast to account for One-off Efficiency. Frontier Efficiency and Input Price Pressure are -0.9% and 0.9% so cancel each other out. We feel this represents a challenging but efficient target
16	Infrastructure network reinforcement	£m	**AMP6** 2017/18 - On our previous APR submission in tables 4D and 4L there is a differences to the two approaches taken for splitting SEMD expenditure across the Water Service categories and the two tables do not reconcile at a business category level, which wasn't a requirement for the submission. In WS1 and WS2 these are required to reconcile. We have achieved this for 17/18 by aligning the approach taken for splitting SEMD expenditure. The APR will require an adjustment. 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** Our AMP7 capital expenditure figures have been generated through our PR19 Investment Planning processes, which has been externally assured. Details can be found in PR19 Investment Cases Summary Document. The output from the PR19 Investment Planning process is a complete programme of individual capital interventions to address our AMP7 risks and needs. The interventions have been categorised in accordance with RAG guidelines for WS1 line descriptions and water service area, and profiled in line with the yearly expenditure profile used as part of our financial modelling. Capital income relating to Grants and contributions have been reported in WS1 against the corresponding water service area category and year. For further guidance please see the PR19 Investment Cases Summary Document

	Line Description	Unit	Notes
			Input Price Pressure and Efficiency Once the investment plan was complete an 8% reduce per annum was applied to our forecast to account for One-off Efficiency. Frontier Efficiency and Input Price Pressure are -0.9% and 0.9% so cancel each other out. We feel this represents a challenging but efficient target **Zero cost -** The following are business categories are zero, as all infrastructure network reinforcement relates to Treated Water Distribution • Water resources • Raw water distribution • Water treatment
17	Total gross capital expenditure excluding third party services	£m	Calculation
18	Third party services	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** In AMP6, third party costs were incurred in relation to the delivery of our bulk supplies works. Therefore, we are forecasting third party costs as zero. **Zero cost -** The following are business categories are zero • Water resources • Raw water distribution • AMP 7 All zero
19	Total gross capital expenditure	£m	Calculation
20	Grants and contributions	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

	Line Description	Unit	Notes
			AMP7 Our AMP7 capital expenditure figures have been generated through our PR19 Investment Planning processes, which has been externally assured. Details can be found in PR19 Investment Cases Summary Document. The output from the PR19 Investment Planning process is a complete programme of individual capital interventions to address our AMP7 risks and needs. The interventions have been categorised in accordance with RAG guidelines for WS1 line descriptions and water service area, and profiled in line with the yearly expenditure profile used as part of our financial modelling. Capital income relating to Grants and contributions have been reported in WS1 against the corresponding water service area category and year. For further guidance please see the PR19 Investment Cases Summary Document **Input Price Pressure and Efficiency** Once the investment plan was complete an 8% reduce per annum was applied to our forecast to account for One-off Efficiency. Frontier Efficiency and Input Price Pressure are -0.9% and 0.9% so cancel each other out. We feel this represents a challenging but efficient target **Zero cost -** The following are business categories are zero • Water resources • Raw water distribution • Water treatment
21	Totex	£m	Calculation **2017/18 Variance to APR** **Principle Usage Recharge** – Where an asset is principally used by wholesale, the capex and depreciation should be recorded in wholesale with a recharge made to household retail to reflect the proportion of the asset used by residential retail. This recharge covers depreciation.

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>This adjustment will cause a variance in the 2017/18 cost of £-0.680m when compared to the APR.

Capex Enhancement Expenditure –

On our previous APR submission in tables 4D and 4L there is a differences to the two approaches taken for splitting SEMD expenditure across the Water Service categories and the two tables do not reconcile at a business category level, which wasn't a requirement for the submission. In WS1 and WS2 these are required to reconcile. We have achieved this for 17/18 by aligning the approach taken for splitting SEMD expenditure. The APR will require an adjustment.

<table>
<tr><th></th><th colspan="5">For the 12 months ended 31 March 2018</th></tr>
<tr><th>£m</th><th>Water resources</th><th>Raw water distribution</th><th>Water treatment</th><th>Treated water distribution</th><th>Total</th></tr>
<tr><td>Totex</td><td>14.037</td><td>1.109</td><td>22.137</td><td>66.080</td><td>103.363</td></tr>
<tr><td>Principal Use Recharge</td><td>-0.135</td><td>-0.012</td><td>-0.198</td><td>-0.335</td><td>-0.680</td></tr>
<tr><td>Capex Enhancement Adjustment</td><td>-0.001</td><td>0.002</td><td>-0.087</td><td>0.086</td><td>0.000</td></tr>
<tr><td>Total ex Adjustments</td><td>14.171</td><td>1.123</td><td>22.248</td><td>66.501</td><td>104.043</td></tr>
<tr><td>APR</td><td>14.171</td><td>1.123</td><td>22.248</td><td>66.501</td><td>104.043</td></tr>
<tr><td>Difference</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td></tr>
</table>
</td></tr>
<tr><td>C</td><td colspan="3">Cash Expenditure (excluding Atypical expenditure)</td></tr>
<tr><td>22</td><td>Pension deficit recovery payments</td><td>£m</td><td>We would not expect to see these in the future given as this section of the Companies Pension Scheme has been closed to future accrual and payments from the scheme are now effectively</td></tr>
</table>

	Line Description	Unit	Notes
			insured.
23	Other cash items	£m	We are not aware of any operating or capital expenditure which would incur which would not be covered elsewhere in this table.
24	Totex including cash items	£m	Calculation
D	**Atypical expenditure**		
25	Item 1	£m	None in 17/18 Actuals, None forecast
26	Item 2	£m	None in 17/18 Actuals, None forecast
27	Item 3	£m	None in 17/18 Actuals, None forecast
28	Item 4	£m	None in 17/18 Actuals, None forecast
29	Item 5	£m	None in 17/18 Actuals, None forecast
30	Item 6	£m	None in 17/18 Actuals, None forecast
31	Item 7	£m	None in 17/18 Actuals, None forecast
32	Item 8	£m	None in 17/18 Actuals, None forecast
33	Item 9	£m	None in 17/18 Actuals, None forecast
34	Item 10	£m	None in 17/18 Actuals, None forecast
35	Total atypical expenditure	£m	Calculation
E	**Total expenditure**		
36	Water totex including cash items and atypical expenditure	£m	Calculation

Note:

The impact of principal use depreciation and the reconciliation adjustment in enhancement capex to the control units to the 2017/18 APR is shown below.

	For the 12 months ended 31 March 2018					For the 12 months ended 31 March 2019					For the 12 months ended 31 March 2020				
£m	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total
Total operating expenditure	11.827	0.777	14.202	25.755	52.561										
Principal Use Recharge (3dp)	-0.135	-0.012	-0.198	-0.335	-0.680										
Total ex Principal Use Recharge	11.962	0.789	14.400	26.090	53.241										
APR	11.962	0.789	14.400	26.090	53.241										
Difference	0.000	0.000	0.000	0.000	0.000										

	For the 12 months ended 31 March 2018					For the 12 months ended 31 March 2019					For the 12 months ended 31 March 2020				
£m	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total	Water resources	Raw water distribution	Water treatment	Treated water distribution	Total
Totex	14.037	1.109	22.137	66.080	103.363	17.327	1.593	27.192	66.282	112.394	15.511	1.937	25.498	61.055	104.001
Principal Use Recharge (3dp)	-0.135	-0.012	-0.198	-0.335	-0.680	-0.086	-0.008	-0.126	-0.214	-0.434	-0.096	-0.009	-0.140	-0.238	-0.483
Total ex Principal Use Recharge	14.172	1.121	22.335	66.415	104.043	17.413	1.601	27.318	66.496	112.828	15.607	1.946	25.638	61.293	104.484
Enhancement Capex Adjustment	-0.001	0.002	-0.087	0.086	0.000										
APR	14.171	1.123	22.248	66.501	104.043					112.828					104.484
Difference	0.000	0.000	0.000	0.000	0.000					0.000					0.000

WS1a - Wholesale water operating and capital expenditure by business unit including operating leases reclassified under IFRS16

We did not disclose any operating lease activity in our 2017/18 accounts. Additionally our business plan forecasts do not include any expenditure that we would expect to result in new operating leases. Therefore we are completing a nil return for the operating lease sections (WS1a/App33) of our PR19 submission. We are going through a full IFRS16 exercise to identify any contracts that may be considered operating leases under IFRS16; so far there is no indication that this is the case.

Ws1a is a restatement of Ws1 with changes for operating lease restatements, as above we have made no adjustments so this will match back to Ws1. Please refer to Ws1 commentary for further commentary on these figures

WS2 - Wholesale water capital and operating enhancement expenditure by purpose and WS2a - Wholesale water cumulative capital enhancement expenditure by purpose

WS2 and WS2a set out capital expenditure on enhancement schemes against the table line descriptions. The data tables include supporting definitions for the line descriptions. The expenditure is presented on an annual basis (in WS2) and cumulative 'delivery year' basis (in WS2a). The annual basis also presents associated operational expenditure.

In AMP6 Bristol Water's largest enhancement scheme was the Southern Resilience Scheme. This, and other AMP6 enhancement schemes, will be completed by the end of AMP6. Hence, annual and cumulative expenditure ramps up towards the end of AMP6. It then drops off in AMP7, as the majority of our AMP7 investment plans relate to capital maintenance activities, and therefore lower expenditure on capital enhancements is forecast. Our AMP7 capital enhancement programme involves just 23 schemes. The majority of our AMP7 enhancement programme is expected to be in the form of 'rolling investment projects' where schemes are delivered steadily in each year across AMP7. A summary of our AMP7 enhancement programme as reported in WS2 is as follows:

- The WINEP programme is reported across lines 1-3, 13*, and 19-20;
- DWI schemes are reported in lines 6 (lead schools quality programme) and 13* (water quality);
  (line 13 covers both DWI and WINEP related raw water deterioration improvement schemes)*
- Leakage reduction expenditure is reported in line 10 (demand side enhancements to the supply/demand balance);
- New development expenditure is reported in lines 11-12;
- Resilience expenditure associated with the resilience performance commitment is reported in line 14.
- Expenditure related to the Security and Emergency Measures (Licensed Water Suppliers) Direction 2006 (SEMD) is reported in line 15; and
- Expenditure related to increasing our meter penetration rate is reported in lines 21-23.

For AMP7, the expenditure profile in WS2a aligns to that in WS2, as our AMP7 schemes (one-off projects and rolling investment projects) are expected to be delivered within a financial year, hence the annual expenditure profile in WS2 aligns to the cumulative (delivery year) profile in WS2a.

In response to a specific request from Bristol Water, Ofwat provided the following guidance regarding the reporting of opex associated with enhancement capital expenditure, which has been followed to report WS2:

206	Cost assessment	Line Ref: WS2 AMP6 Capex Enhancement schemes started/completed in 15/16 or 16/17, and that have on-going opex costs in future years – do we need to report this opex, or is it only opex from Capital Enhancement schemes that started/finished in 17/18 onwards? Then, related questions: - does any on-going opex from AMP6 Capex Enhancement schemes need to be included in the AMP7 forecasts? - does any on-going opex from AMP5 Capex Enhancement schemes need to be included in the AMP6 and AMP7 forecasts?	The opex to be reported in Block B of Table WS2 (and Table WWS2) is the net additional opex associated with all AMP6 Enhancement schemes, including those for which no capex is reported in Block A -(because the scheme was completed in either 2015-16 or 2016-17 or (as is possible for some transition schemes) 2014-15). The (net additional) opex associated with opex-based solutions (i.e. where there is no capital scheme) should also be included. The requirement to report "net additional opex" means that any opex savings resulting from enhancement investment should be entered as a negative figure. Ongoing (net additional) opex from AMP6 Enhancement schemes should be included in the AMP7 forecasts. Ongoing (net additional) opex from AMP5 Enhancement schemes should not be included in the AMP6 and AMP7 forecasts.

AMP6 opex associated with enhancement expenditure has not been previously required for regulatory reporting purposes. An exercise was undertaken specifically for the purposes of the WS2 AMP6 opex reporting requirement to evaluate whether any associated opex could be identified. The end result of this evaluation exercise was to identify additional opex associated with one AMP6 enhancement scheme (BN-2032 Barrow UV), which was completed in 16/17. The associated opex is £130k in 17/18 rising in line with inflation up to £148k in 24/25. This annual opex continues into AMP7. Opex increases/decreases from AMP7 enhancement schemes are derived from the engineering cost build-up of AMP7 schemes completed as part of our PR19 business planning process.

- The annual capital expenditure totals, and water service subtotals, in WS2 are required to reconcile with annual subtotals, and water service subtotals, of lines 14-16 of WS1. The analysis and reporting of data achieves this validation and reconciliation.

- AMP6 capex forecasts are based on project manager's estimates for expenditure as recorded in the AMP6 delivery plan. The forecasting process is managed by Bristol Water's Investment Programme Management team. The AMP6 delivery plan is managed by Bristol Water's Finance team.

- AMP7 capex and opex forecasts are based upon the PR19 capital investment planning process, managed and assured as part of the wider PR19 business planning process. Each investment case in the technical annex to C5 (C5B) sets out the enhancement elements and the allocation to the lines on table WS2 (i.e. expenditure defined as 'other capital expenditure' infra/non-infra wholescale cost categories). WS2a shows the cumulative impact based on scheme completion dates as part of individual schemes in the investment programme. The opex values are also developed at an individual scheme level.

- The source data used to report the data tables is aligned with that used to report WS1 and as used to develop the AMP7 capex and opex financial models. This provides consistency in approach and outputs. The reported capex and opex values in Ws2 and WS2a incorporated the efficiencies as included throughout our business plan.

- The data and analysis follows the approaches taken for the 16/17 wholesale cost assessment (Tables 2 and 2.1) and 17/18 annual performance report (Table 4L) to ensure consistency in reporting and categorisation of AMP6 schemes. Tables 2 and 2.1 and Table 4L have been subject to the assurance checks as part of the 16/17 wholesale cost assessment and 17/18 annual performance report assurance processes.

- Where judgements or assumptions have been made on the allocation of schemes to WS2 and WS2a line descriptions, these have been reviewed by parties within the organisation with the appropriate background/knowledge. However this allocation to lines involves little judgement; our AMP7 capital enhancement programme involves only 23 schemes and their alignment to the line descriptions in WS2/2a is clear. For instance line 14 'Resilience' is the investment to deliver the Resilience performance commitment, critical pipe resilience to protect communities from severe interruptions greater than 10,000 population.

WS3 - Wholesale water properties and population

The table asks for projections of properties and population up to the 2025-30 (AMP8) period.
The data for the source categorisation follows the Annual Return Reporting Requirements and Definitions for guidance on the allocation.
This table is dependant on the Meter Penetration Performance Commitments (PC) for AMP 6 and AMP 7. These targets dictate the forecast of the number of unmeasured and measured domestic properties.
This table is dependant upon the APP30 Void Properties PR19 table, and the Total number of new properties (Line 13 and 14) is also used for the Assessment of Infrastructure Charges.

Current Year 2017-18

All the individual lines (Line 1-18) in the table are also reported in the Annual Periodic Return (APR) Table 4Q (2018 submission). This table covers Non-Financial Data for Wholesale Properties, Population and Other.
Extensive documentation covering the APR process and specifically the data lines reported in this table are available in the relevant Regulatory Affairs share point site. These lines are audited annually by Atkins. A cross check for the Lines 1-18 for 2017/18 has been undertaken to ensure that the figures have been correctly copied from the APR table.
Lines 16 & 17 were incorrectly reported with voids in our original APR table (table 4Q), subsequently corrected when we identified this issue. This table includes updated projections throughout and the correct data for 2017/18

AMP 6-8 forecast

The data for the forecast are a direct copy from the externally-assured Draft Water Resources Management Plan tables. This is relevant to the Lines 1-8 and 11-15. Line 6 and 7, Total business and residential connected properties at the year end have been derived from the mid year WRMP data. The Confidence Grades for these figures is A2. The data is based on robust records and analysis through the WRMP is considered to be best method of assessment.
For line 9 and 10 Number of Residential and Commercial meters renewed. The Number of meters renewed for the forecasted period is based on analysis of meter data from the GIS system. The number of pro-active meter replacements is determined through the age of the meter stock and the proactive meter replacement policy based on an economic age of 18 years for smaller meters. A base level of reactive replacements is added to this, which is an average of the meter replaced during the period 2016/17 to 2017/18 when no proactive replacement programme took place. The Confidence Grades for these figures is B2, as there will be some uncertainty on the programme of works for proactive meter replacement being completed with the period.
For line 18 Company Area. This line is forecast on the basis of the current year figure plus any planned changes for the next AMP.
1. A manual check is made with the Development Services team to confirm whether any inset agreements are planned and in which financial year, and their size in km2.
2. A manual check is made with the Regulatory team to confirm whether any actions by the regulator will affect Bristol Water's operating area and in which financial year, and by what area in km2.
3. The net effect of any changes is added to the company area for the previous year.

The Confidence Grades for these figures is A1, as the company surface area is well defined and changes as a result of inset agreements will be small and infrequent.
For Line 16 and 17 Number of residential meters (billed properties) the ratio of meters to billed measured properties for 2017-18 was derived and applied to future years

WS4 - Wholesale water other (explanatory variables)

This table identifies other wholesale water explanatory variables and reflects table 7 of the 2017 Cost Assessment submission. With regard to lines 4 and 5, any activity associated with costs incurred by business (or residential) retail have been be excluded. All demand management savings delivered in the reporting year have been included (whether funded as enhancement or maintenance), as all are contributing to the supply demand balance and are needed to deliver the final WRMP.

Lines 6, 7 and 8 relate to the energy costs associated with operating costs only. For consistency with the APR (Line 2B.1) this line does include all energy costs (including electricity, gas and fuel for vehicles, plant and machinery). These lines are intended to capture energy consumed; energy exported should not be included. Energy consumption should be allocated between lines 7 and 8 in a way that is consistent with the accounting separation units.

All the individual lines in the table, with the exception of Line 10 Compliance risk index and Line 11 Event Risks Index are also reported in the Annual Periodic Return (APR) Table 4Q (2018 submission). This table covers Non-Financial Data for Wholesale Properties, Population and Other. Extensive documentation covering the APR process and specifically the data lines reported in this table are available in the relevant Regulatory Affairs Sharepoint site.

There are a number of links between this Table and other PR19 tables:
- WS4 lines 4-5 are linked to Table WN2 line 25 Total Leakage. Line 4 is blank as we no longer define a critical/peak condition in our WRMP.
- WS4 line 10 Compliance Risk Index is consistent with the same line entry in APP1.
- WS4 line 12 Volume of leakage above/below SELL is linked to WN2 Line 25 total leakage and APP2 Line 3 Central Point of SELL.

Current Year 2017-18
Lines 1-9 and Line 12 in the table are also reported in various tables in the Annual Periodic Return (APR) (2018 submission). Extensive documentation covering the APR process and specifically the data lines reported in this table are available in the relevant Regulatory Affairs share point site. These lines are audited annually by Atkins. A cross check for the Lines 1-18 for 2017/18 has been undertaken to ensure that the figures have been correctly copied from the APR table.

Line 10 Compliance Risk Index and Line 11 Event Risk Index are not part of the APR reporting, but these are currently being assessed annually and reported to the DWI in advance of these two metrics replacing the Mean Zonal Compliance Line 9. Our 2017 score for CRI was 0.032 and ERI of 7.909

AMP 6 forecast
For Line 1; Number of lead communication pipes replaced for Water Quality, the forecast is based on the following;
- Proactive project based replacement
- Reactive replacement

For the reactive replacement the Average replacement of the 4 year period (2014/15-2017/18) is use for the rest of AMP6.

These lines are cross-checked by comparing the forecast figures against a straight-line extrapolation from the previous three years' figures (2015-16 to 2017-18). Typically the previous three years are used because these are the figures from the current AMP, which are the years most likely to have a similar strategy to the next AMP. The confidence grades for these figures are B2 as there is an inherent degree of uncertainty on the level of reactive lead replacements.

Line 2-5 Total supply/demand side enhancements; these are a direct copy from the externally-assured Draft Water Resources Management Plan tables. The confidence grades for these figures are A2. The WRMP process is well defined and recognised as the best methodology for determining Supply/Demand forecasts. The impact of the increase in meter penetration in Year 4-5 for AMP6 is taken into account in the forecast fro demand side enhancements.

Line 6-8; Energy consumption, the forecast assumes a stable energy consumption level. The confidence grades for these figures are B2 as there is a degree of uncertainty on the Energy Consumption and the impact of external factors (i.e. weather) on resources and energy management.

Line 9 Mean Zonal Compliance; the forecast for AMP is based on current targets.

Line 10: Compliance Risk Index and Line 11 Event risk index. Assessment of these indices is still in its infancy and the data has only been reported for the last 3 years (2015-2017). The Compliance Risk index forecast for Years 4-5 is based on historic performance. The Event Risk Index can have a large variability in the annual scores. The Clevedon precautionary boil water notice in January 2018 has been provisionally scored at c21.6 and with our performance for 2017 of 7.909, we forecast 29.6 for the full year. We have used 2017 at c8 as a future forecast for now.

Line 12 Volume of Leakage above or below SELL. A reassessment of the SELL was undertaken as part of the PR19 project and a new SELL was calculated. The new (lower) SELL level has been applied from 2020-21. The original higher SELL is used within AMP 6. This explains why for AMP6 the leakage performance is significantly below SELL.

AMP 7 forecast

Current + planned:

The basis for these figures is the same as for the AMP6 forecasts, with the difference that the source for the forecast for each year is the PR19 Investment Case or the externally-assured Draft Water Resources Management Plan. This is applicable for Line 1-5

Line 6-8: Energy consumption, the forecast assumes a stable energy consumption level. The data is input in kwH as opposed to APR table 4Q which is in MwH. As the table cell does not read the MwH numbers are 67,606 and 18,628 respectively for lines 6 and 7, a total of 86,234MwH for line 8.

Line 9-10: Forecast based on PR 19 enhancements in performance.

Line 12 Volume of Leakage above or below SELL. The new (lower) SELL level has been applied from 2020-21. A glide path has been applied to reducing leakage over the AMP7 period. This explains why initially leakage is above SELL, but by 2023/24 is below SELL.

WS5 - Other wholesale water expenditure

All values on this table are stated in Outturn costs for AMP6 and 2017-18 FYA (CPIH deflated) for AMP7

2017/18 actuals are used as the base for our forecast. This is adjusted to remove one off items which we would not expect to reoccur in future years. This removes the impact of one off credits and aligns our third party rechargeable costs to historic levels whilst being consistent with related revenue assumptions. The net impact is a small uplift to the base of £0.06m per annum.

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Other total expenditure</td></tr>
<tr><td>1</td><td>Employment costs ~ directly attributable</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>13.583</td><td>13.583</td><td>13.583</td><td>13.583</td><td>13.583</td><td>67.913</td></tr>
<tr><td>Insourcing of delivery activities</td><td>3.918</td><td>3.918</td><td>3.918</td><td>3.918</td><td>3.918</td><td>19.590</td></tr>
<tr><td>IPP</td><td>0.864</td><td>1.155</td><td>1.451</td><td>1.753</td><td>2.064</td><td>7.287</td></tr>
<tr><td>Total</td><td>18.364</td><td>18.656</td><td>18.952</td><td>19.254</td><td>19.565</td><td>94.790</td></tr>
</table>

Insourcing of delivery activities – In Network Operations we are fundamentally redesigning how we manage our network and serve our customers, as part of our Transformation Programme (see A1 and C5). One action we are taking in PR19 is the insourcing of front-end delivery activities and their management, outsourced in 2014, this will result in a c25% increase in direct headcount, but effectively gives greater control over costs that are already incurred, as well as delivering the stretching performance commitments for leakage, supply interruptions and customer experience in our plan, amongst others.</td></tr>
</table>

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>Input Price Pressure - These values are uplifted by an Input Price Pressure of 1.6% per annum as suggested in the NERA report as an uplift for Labour above CPIH</td></tr>
<tr><td>2</td><td>Employment costs ~ indirectly attributed</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7
<table><tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr><tr><td>17/18 Adjusted Base</td><td>6.488</td><td>6.488</td><td>6.488</td><td>6.488</td><td>6.488</td><td>32.439</td></tr><tr><td>Insourcing of delivery activities</td><td>0.579</td><td>0.579</td><td>0.579</td><td>0.579</td><td>0.579</td><td>2.896</td></tr><tr><td>IPP</td><td>0.347</td><td>0.463</td><td>0.585</td><td>0.705</td><td>0.830</td><td>2.931</td></tr><tr><td>Total</td><td>7.414</td><td>7.531</td><td>7.652</td><td>7.772</td><td>7.898</td><td>38.267</td></tr></table>
Insourcing of delivery activities – In Network Operations we are fundamentally redesigning how we manage our network and serve our customers, as part of our Transformation Programme (see A1 and C5). One action we are taking in PR19 is the insourcing of front-end delivery activities and their management, outsourced in 2014, this will result in a c25% increase in direct headcount, but effectively gives greater control over costs that are already incurred, as well as delivering the stretching performance commitments for leakage, supply interruptions and customer experience in our plan, amongst others.

Input Price Pressure - These values are uplifted by an Input Price Pressure of 1.6% per annum as suggested in the NERA report as an uplift for Labour above CPIH</td></tr>
<tr><td>3</td><td>Number FTEs consistent with line 1</td><td>nr</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7
Insourcing of delivery activities – In Network Operations we are fundamentally redesigning how we manage our network and serve our customers, as part of our Transformation Programme (see</td></tr>
</table>

	Line Description	Unit	Notes
			A1 and C5). One action we are taking in PR19 is the insourcing of front-end delivery activities and their management, outsourced in 2014, this will result in a c25% increase in direct headcount, but effectively gives greater control over costs that are already incurred, as well as delivering the stretching performance commitments for leakage, supply interruptions and customer experience in our plan, amongst others. This is a 90 FTE (out of 100) increase in indirect employees. We assume IPP represent the salary increase within the business.
4	Number FTEs consistent with line 2	nr	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** **Insourcing of delivery activities** – In Network Operations we are fundamentally redesigning how we manage our network and serve our customers. One action we are taking in PR19 is the insourcing of front-end delivery activities and their management, outsourced in 2014, this will result in a c25% increase in direct headcount, but effectively gives greater control over costs that are already indirectly incurred. This will result in an additional 10 heads over 2017/18 actuals by the start of AMP7. In Network Operations we are fundamentally redesigning how we manage our network and serve our customers, as part of our Transformation Programme (see A1 and C5). One action we are taking in PR19 is the insourcing of front-end delivery activities and their management, outsourced in 2014, this will result in a c25% increase in direct headcount, but effectively gives greater control over costs that are already incurred, as well as delivering the stretching performance commitments for leakage, supply interruptions and customer experience in our plan, amongst others. This is a 10 FTE (out of 100) increase in indirect employees. We assume IPP represent the salary increase within the business.
5	Costs associated with Traffic Management Act	£m	We have not factored any costs attributed to permits. There is a cost risks related to highway permitting schemes of c£1.0m p.a., based on a recent Government recommendation to local authorities requiring implementation of such a scheme but there is no firm information on which to base a forecast at this time.
B	**Service charges**		

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td>6</td><td>Canal & River Trust service charges and discharge consents</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>1.626</td><td>1.626</td><td>1.626</td><td>1.626</td><td>1.626</td><td>8.129</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.088</td><td>0.118</td><td>0.148</td><td>0.179</td><td>0.211</td><td>0.744</td></tr>
<tr><td>Efficiency</td><td>-0.053</td><td>-0.053</td><td>-0.053</td><td>-0.053</td><td>-0.053</td><td>-0.265</td></tr>
<tr><td>Total</td><td>1.661</td><td>1.691</td><td>1.720</td><td>1.751</td><td>1.783</td><td>8.606</td></tr>
</table>

This line is the amount we pay C&RT for abstraction charges from the EA, not the c£1.8m we pay p.a. for water supplied from the canal.
Input Price pressure – 1.8% is expected (above CPIH) for the Amp
Efficiency – Efficiencies shown align the expenditure to 18/19 expectations before IPP. This is consistent with line 7 as efficiencies are unlikely to be available, but the input price pressure appears to be more likely.</td></tr>
<tr><td>7</td><td>Environment Agency service charges/ discharge consents</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7</td></tr>
</table>

	Line Description	Unit	Notes
			<table><tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr><tr><td>17/18 Adjusted Base</td><td>1.252</td><td>1.252</td><td>1.252</td><td>1.252</td><td>1.252</td><td>6.258</td></tr><tr><td>Input Price Pressure (IPP)</td><td>0.068</td><td>0.091</td><td>0.114</td><td>0.138</td><td>0.162</td><td>0.573</td></tr><tr><td>Efficiency</td><td>-0.041</td><td>-0.041</td><td>-0.041</td><td>-0.041</td><td>-0.041</td><td>-0.204</td></tr><tr><td>Total</td><td>1.279</td><td>1.302</td><td>1.325</td><td>1.349</td><td>1.374</td><td>6.629</td></tr></table> We are expecting that, as with waste permitting, abstraction charges reform in 2021 could see a significant increase in abstraction charges. We take a cautious approach in applying an input price and efficiency assumption. **Input Price pressure** – 1.8% is expected (above CPIH) for the AMP **Efficiency** – Efficiencies shown align the expenditure to 18/19 expectations before IPP. This does not take into account potential future efficiencies, which have not been allocated to this line given the likely future increase identified above.
8	Other service charges / permits	£m	None expected
9	Statutory water softening	£m	None expected

WS7 - Wholesale water local authority rates

All values on this table are stated in Outturn costs for AMP6 and 2017-18 FYA (CPIH deflated) for AMP7

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Water wholesale local authority rates</td></tr>
<tr><td>1</td><td>Wholesale Water business rates charge for current year before transitional relief</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7
Business Retail Costs – Remaining costs which were previously Business Retail (of which cannot be allocated to business retail post 2020 following retail exit) moves to Wholesale in Amp7. There is a small cost related to rates

Forecast Breakdown

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>4.802</td><td>4.802</td><td>4.802</td><td>4.802</td><td>4.802</td><td>24.010</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.263</td><td>0.351</td><td>0.442</td><td>0.534</td><td>0.629</td><td>2.219</td></tr>
<tr><td>Efficiency</td><td>-0.100</td><td>-0.100</td><td>-0.100</td><td>-0.100</td><td>-0.100</td><td>-0.500</td></tr>
<tr><td>Total</td><td>4.965</td><td>5.054</td><td>5.145</td><td>5.235</td><td>5.332</td><td>25.731</td></tr>
</table>

Input Price pressure – 1.8% is expected (above CPIH) for the Amp per annum
Efficiency – There is Efficiency challenge from AMP6 which is seen above. No Impact in AMP7</td></tr>
<tr><td>2</td><td>Wholesale Water business rates transitional relief</td><td>£m</td><td>2017/18 consists of a transitional premium as the bill has decreased beyond cap (thus a positive value). We do not at this time expect any other transitional relief going forwards</td></tr>
<tr><td>3</td><td>Wholesale Water business rates charge for current year after</td><td>£m</td><td>Calculated Cell</td></tr>
</table>

	Line Description	Unit	Notes
	transitional relief		
4	Adjustments to wholesale water business rates charge for prior years	£m	Nil
5	[Other wholesale water business rates adjustments 1]	£m	Not Applicable
6	[Other wholesale water business rates adjustments 2]	£m	Not Applicable
7	[Other wholesale water business rates adjustments 3]	£m	Not Applicable
8	Wholesale Water business rates forecast for Business Plan	£m	Calculated Cell
B	**Analysis of change in charge before transitional relief**		
9	Change in wholesale water business rates costs from prior year	£m	Linked / Calculated Cell
10	Change in wholesale water business rates costs due to the impact of any revaluation	£m	None expected

	Line Description	Unit	Notes
11	Change in wholesale water business rates costs due to change in asset stock	£m	None expected
12	Changes due to Inflation & Price Base presentation	£m	AMP6 – Shows Input Price Pressure uplift (within this value would be the CPIH impact) for that year AMP7 – Shows Input Price Pressure uplift above CPIH for that year
13	CPIH Deflation	£m	Represents the CPIH inflation shown in 2018/19 and 2019/20. This is taken out to provide the CPIH deflated value requested in AMP7
14	[Change in wholesale water business rates costs due to other 3]	£m	Not Applicable
15	Change in wholesale water business rates charge before transitional relief	£m	Calculated Cell. There is a check difference in the first year. It is shown as there is no prior year to compare to. So the difference equals that of the opening balance.
16	Check difference	£m	Calculated Cell

WS8 - Third party costs by business unit for the wholesale water service

All values on this table are stated as Outurn costs for AMP6 and 2017-18 FYA (CPIH deflated) for AMP7

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Third party costs ~ price control (operating expenditure)</td></tr>
<tr><td>1</td><td>Non potable water (which are not bulk supplies)</td><td>£m</td><td>None expected and none within the last 5 years</td></tr>
<tr><td>2</td><td>Other ~ please specify</td><td></td><td>Not Applicable</td></tr>
<tr><td>3</td><td></td><td>£m</td><td>Not Applicable</td></tr>
<tr><td>4</td><td>Total third party water service costs ~ price control (operating expenditure)</td><td>£m</td><td>Calculation</td></tr>
<tr><td>B</td><td colspan="3">Third party costs ~ non price control (operating expenditure)</td></tr>
<tr><td>5</td><td>Bulk supplies</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP7
<table><tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr><tr><td>17/18 Adjusted Base</td><td>0.554</td><td>0.554</td><td>0.554</td><td>0.554</td><td>0.554</td><td>2.770</td></tr><tr><td>Input Price Pressure (IPP)</td><td>0.030</td><td>0.040</td><td>0.051</td><td>0.061</td><td>0.073</td><td>0.255</td></tr><tr><td>Efficiency</td><td>-0.017</td><td>-0.017</td><td>-0.017</td><td>-0.017</td><td>-0.017</td><td>-0.083</td></tr><tr><td>Total</td><td>0.567</td><td>0.577</td><td>0.588</td><td>0.598</td><td>0.610</td><td>2.941</td></tr></table>Input Price pressure – 1.8% is expected (above CPIH) for the Amp
Efficiency – Efficiencies shown align the expenditure to 18/19 expectations before IPP
Zero cost - The following are business categories are zero
o Raw water distribution</td></tr>
</table>

<table>
<tr><th></th><th>Line Description</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>o Treated water distribution</td></tr>
<tr><td>6</td><td>Reservoir operating agreements</td><td>£m</td><td>Not Applicable</td></tr>
<tr><td>7</td><td>Recreational use of land</td><td></td><td>Not Applicable</td></tr>
<tr><td>8</td><td>Rechargeable work</td><td>£m</td><td>AMP6
2017/18 saw more 3rd party work than the long term average. Therefore forecast cost levels are reduced.
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP
AMP7

<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>0.953</td><td>0.953</td><td>0.953</td><td>0.953</td><td>0.953</td><td>4.766</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.040</td><td>0.053</td><td>0.066</td><td>0.080</td><td>0.094</td><td>0.333</td></tr>
<tr><td>Efficiency</td><td>-0.252</td><td>-0.252</td><td>-0.252</td><td>-0.252</td><td>-0.252</td><td>-0.420</td></tr>
<tr><td>Total</td><td>0.741</td><td>0.754</td><td>0.768</td><td>0.782</td><td>0.796</td><td>3.841</td></tr>
</table>

Efficiency – Efficiencies shown align the expenditure to 18/19 expectations before IPP. This ties into the related revenue assumptions and represents a better long term view on rechargeable work.
Input Price pressure – 1.8% is expected (above CPIH) for the Amp
Zero cost - The following are business categories are zero
• Water resources
• Raw water distribution
• Water treatment</td></tr>
<tr><td>9</td><td>Standpipes</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP
AMP7</td></tr>
</table>

	Line Description	Unit	Notes
			<table><tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr><tr><td>17/18 Adjusted Base</td><td>0.045</td><td>0.045</td><td>0.045</td><td>0.045</td><td>0.045</td><td>0.224</td></tr><tr><td>Input Price Pressure (IPP)</td><td>0.002</td><td>0.003</td><td>0.004</td><td>0.005</td><td>0.005</td><td>0.019</td></tr><tr><td>Efficiency</td><td>-0.005</td><td>-0.005</td><td>-0.005</td><td>-0.005</td><td>-0.005</td><td>-0.026</td></tr><tr><td>**Total**</td><td>0.042</td><td>0.043</td><td>0.043</td><td>0.044</td><td>0.045</td><td>0.217</td></tr></table> **Input Price pressure** – 1.8% is expected (above CPIH) for the Amp **Efficiency** – Efficiencies shown align the expenditure to 18/19 expectations before IPP **Zero cost -** The following are business categories are zero • Water resources • Raw water distribution • Water treatment
10		£m	Not Applicable
11		£m	Not Applicable
12		£m	Not Applicable
13		£m	Not Applicable
14	Total third party water service costs ~ non price control (operating expenditure)	£m	Calculation. This follows the figures seen for 3rd party services in WS1 Line 10
C	**Third party costs ~ price control (capital expenditure)**		
15	Non potable water (which are not bulk supplies)		None expected and none within the last 5 years
16	Other ~ please specify		Not Applicable
17			Not Applicable
18	Total third party water		Calculation

	Line Description	Unit	Notes
	service costs ~ price control (capital expenditure)		
D	**Third party costs ~ non price control (capital expenditure)**		
19	Bulk supplies	£m	**AMP6** 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP **AMP7** In AMP6, third party costs were incurred in relation to the delivery of our bulk supplies works. We are forecasting third party costs as zero for AMP7.
20	Reservoir operating agreements	£m	None expected and none within the last 5 years
21	Other ~ please specify		Not Applicable
22		£m	Not Applicable
23		£m	Not Applicable
24		£m	Not Applicable
25		£m	Not Applicable
26		£m	Not Applicable
27		£m	Not Applicable
28	Total third party water service costs ~ non price control (capital expenditure)	£m	Calculation. This follows the figures seen for 3rd party services in WS1 Line 18

WS10 - Transitional spending in the wholesale water service

This data table sets out any accelerated (or transition) water capital expenditure a Water Company would like to make in the last year of the current price control period (2015-20). Such expenditure must contribute to the early delivery of outcomes proposed for the next price control period (2020-25.

Bristol Water's current position with regard to accelerated / transition water capital expenditure is that there are no plans/requirement to undertake any such expenditure, given the nature of the proposed PR19 Investment Plan. It is expected that none of the proposed capital enhancement schemes will necessitate accelerated / transition expenditure. This position has been confirmed by Bristol Water's Asset Management Director and Strategy & Regulation Director. Therefore, the data values for WS10 are all zero (0). The table has been populated accordingly..

WS12 - RCV Allocation in the wholesale water service

- The data uses the current cost fixed asset information to inform how the RCV could be allocated between Water resources and Network plus using the Modern Equivalent Asset Values.

- Section C shows our proposed allocation of the 2020 RCV, which is based on the average of the net MEAV and historic costs.

- All fixed asset additions appropriate to the current cost fixed asset register have been captured in the data and depreciation forecast on those additions and existing assets. In 2017/18, costs incurred in respect of a new reservoir, which is now not being progressed, were impaired and has been captured in the data.

- The methodology takes account of the specific requirements published ahead of the initial submission of this table on 31st January 2018, and the subsequent feedback published in April 2018.

- Ofwat set out a number of potential methods by which companies could propose to allocate the RCV. Our proposal was clearly set out in our January submission and Ofwat's feedback confirmed that they considered it to be acceptable.

- Ofwat may question the small alteration to the proposed allocation from 22.2% to 22.07% is explained by the inclusion of 2017/18 Net MEAV and cost data within the calculation. The details supporting this table is set out in document C6 of our plan.

- The January 2018 version of this submission included table WS12b, which required companies to assess the potential impacts on tariffs and bulk supply charges from their proposed approaches. Ofwat has removed this table requirement from the final business plan tables but set out in its feedback a number of areas where it expects companies to comment on potential impacts. We do this in section C6 of our written business plan.

- Line 1 reconciles to the Regulatory Accounts. Line 8 to the CCA fixed asset register as at March 2017.

- The allocation of RCV is reflected in the calculations shown in table App8, which applies the allocation to the separate controls.
    - Our strategy for our proposed allocation was set out in our January 2018 submission, and is repeated in section C6 of our written plan. A key issue for us is that our allocation on a purely net MEAV basis is significantly higher than other companies, and generally reflects pre-privatisation reservoir assets in an area where water resource trading is unlikely due to topography, so we considered ways to mitigate that and a proposed a hybrid approach, averaged with historic costs to be the most appropriate.
    - The January submission was subject to external assurance by PwC and Board approval ahead of submission. The final submission has only been updated for 2017/18 actual data that has also received APR assurance from PwC.

- The forecasts have come from the capital delivery plan 26 April 2018 for AMP6.

WS12a - Change in RCV allocation in the wholesale water service

There is a change in the proposed allocation from the January 2018 submission due to two reasons

- The first is inflation from 2016/17 to 2017/18 prices.
- The second is an update following the inclusion of 2017/18 net MEAV and cost data within the allocation calculation.

This table is to be considered in conjunction with table WS12. The commentary and methodology for that table being relevant and supportive to the information contained within this one. Document C6 provides a full explanation.

WS13 - PR14 wholesale revenue forecast incentive mechanism for the water service

This table takes inputs from:

- PR14 Final Determination
- CMA PR14 redetermination
- Actual revenue data reported in APRs
- Revenue forecasts for 2018/19 and 2019/20 based on tariff calculations
- Ofwat WRFIM Model
- Ofwat Revenue Adjustments Model

Updates from early submission

- This table was originally submitted as part of the July 2018 reconciliation submission.
- Following that submission the following updates have been made, which were subject of a query follow the initial submission as we had not realised that we should have adjusted the FInputs sheet for pre-populated data. The pre-populated data has been adjusted to reflect the following. Full details are set out in document C7:
- Line 7 – discount rate entered as per Wholesale WACC set by CMA
- Line 11 – K Factors updated as per CMA redetermination
- 2015/16 – lines 17 & 18 – updated as per revised submission of 2015/16 APR table 2I
- 2017/18 – lines 15 & 17 – correction of minor rounding differences to APR
- Lines 27, 29, 30 & 31 – update to calculated reward from feeder models due to correction of Wholesale WACC applied.

Line	July Submission (original)	Updated Value(s) – as subsequently updated
7	0	3.67%
11 (all years)	0.00 -6.33 0.72 -0.16 0.06	0.00 -1.81 0.48 0.25 0.21
15 (17/18)	42.430	42.431
17 (15/16), (17/18)	22.477; 33.642	27.216; 33.643
18 (15/16)	23.345	22.477
27	2.807; 2.560; 2.193	2.810; 2.563; 2.199
29	2.768; 2.544; 2.193	2.772; 2.547; 2.199
30	2.503	2.513
31	2.477	2.487

Application of adjustments

Full details of our approach to population of this table and the adjustments to PR19 revenue can be found in section C7 of our business plan. The feeder models concerned with the table inputs accompany this plan submission.

WS15 - PR14 wholesale total expenditure outperformance sharing for the water service

This table takes inputs from:

- PR14 Final Determination
- CMA PR14 redetermination
- Actual totex data reported in APRs
- Totex forecasts for 2018/19 and 2019/20 based on budgets
- Ofwat Totex Model
- Ofwat Revenue Adjustments Model
- Ofwat RCV Adjustments Model

Updates from early submission

This table was originally submitted as part of the July 2018 reconciliation submission.
Following that submission we adjusted the financing rate within the F_Inputs tab to the value of 3.67% in line with the Wholesale WACC. This had no impact on any other lines, as the figure of 3.67% was used within the feeder models for the initial submission.

Block F is not completed as no business rate IDoK has been submitted or approved, and none is warranted. The table validation check should not apply as blank reflects the table guidance which states “only activated after successful IDoK”.

Application of adjustments

Full details of our approach to the population of this table and the adjustments to PR19 revenue and RCV can be found in Section C7 of our business plan.

WS17 - PR14 water trading incentive reconciliation

Table WS17 contains the inputs used for populating the water trading incentives reconciliation model to calculate incentive payments due at PR19 and to be paid after PR19. The table summarises the new imports and exports of raw or treated water between water companies, whether in AMP6 or beyond. Ofwat will utilise this data as part of the PR19 Final Determination and to inform its water trading strategy. No new imports and exports were identified during PR14 and the bulk of this table will therefore be reported as zero.

For WRMP14 and PR14 no new water trading options were identified. Recent analysis of the most suitable suite of options for the management of the supply-demand balance during the WRMP19 development for the planning period to 2045 has also shown that there is no requirement for new trading options between Bristol Water and our neighbouring companies in order to manage local Supply Demand Balances. A reduction to the existing bulk treated water export to Wessex Water has been identified as part of the long-term Water Resources Management Plan 2019 to address a forecast baseline supply demand balance deficit from 2025, but as this is an existing export that was agreed prior to AMP6, this proposed change to export is not required to be reported in Table WS17.

- **Describe the basis for forecasts, referencing business cases and company strategy.**

Data for this table line are taken from the final WRMP14 and post-consultation revised draft WRMP19 assessment of options on water trading. These assessments indicate that in the preferred final plan at PR14 and for the post-consultation revised draft WRMP19 there are no options for new water trading (both imports and exports). As a result all the cells in this table except A1 (confirmation of pushing the Ofwat-approved trading & procurement code) and B2 (real cost of capital) are shown as zero.

- **Any material risks to the accuracy of the data and how these have or will be mitigated, including any investment proposals**

As this table reports on an historic assessment of trading choices, no risk has been identified as likely to occur if this table provides incorrect reporting on decisions and strategy already carried out.

- **Linkage to PR19 themes of Affordability, Resilience, Customer Service, Innovation**

Water resource trading is managed in order to provide an optimised cost beneficial and resilient supply of water to customers, using options and trades with the greatest benefit to customers and which consider customer preference; willingness to pay; levels of service and drought resilience. The trading approach allows for long-term management and review of water resources in order to allow opportunities for new and innovative approaches to be explored in full such as the newly-formed West Country Water Resource Group which provides a forum for long-term planning on water trading in the region.

WS18 - Explaining the 2019 Final Determination for the water service

A1 Residential customers metered – The source is our 16/17 wholesale submission, as that is consistent with WS3 where the 17/18 onwards data is calculated from.

The inputs should therefore be:

15/16: 46.62%

16/17: 48.44%

			CG	2015-16	CG	2016-17
Households billed for measured water (external meter)	000s	3	A1	196.858	A1	205.854
Households billed for measured water (not external meter)	000s	3	A1	27.458	A1	28.884
Households billed for unmeasured water	000s	3	A1	256.822	A1	249.852
Meter penetration				46.62%		48.44%

A2 Number of contacts about drinking water (taste, odour and discolouration) – (2018-19 and 2019-20): is taken from PR14 Business Plan targets (as amended by CMA). This is consistent with page7 of our PR14 corrigenda - 'Penalty Deadband' data (converted to per 1,000 population).

AMP7 Forecast is a calculation based on the outputs of our investment planning – see narrative within Section C3 of the Business Plan and attached supporting information

From Page 155:

Committed Performance Levels							
Water quality contacts (appearance)	**Unit**	**2019/20 Baseline**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
PC	Contacts per 1,000 people	0.93	0.83	0.73	0.63	0.53	0.43

From Page 167:

Committed Performance Levels							
Water quality contacts (taste and odour) per 1,000 people	**Unit**	**2019/20 (Baseline)**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
PC	Contacts per 1,000 people	0.44	0.4	0.36	0.32	0.28	0.25

Table	Line		Item reference	Units	DPs	2020-21	2021-22	2022-23	2023-24	2024-25
WS3	15	Total population served	BN2590	000	3	1245.481	1257.607	1269.203	1280.874	1292.096
		Water quality contacts (appearance) Target				0.83	0.73	0.63	0.53	0.43
		Water quality contacts (taste and odour) Target				0.4	0.36	0.32	0.28	0.25
		Contacts per 1,000 population (appearance, taste, odour)				1.23	1.09	0.95	0.81	0.68
		Total no. contacts				1532	1371	1206	1038	879

Line description	Item reference	Units	DPs	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Total Household Population as defined within key data document		(000)	.00	1245.481	1257.607	1269.203	1280.874	1292.096	
Number of contacts about drinking water (taste, odour and discolouration)	WS18002	Nr	0	1532	1371	1206	1038	879	

Calculation, copy or download rule	Validation description
	Data Source: WS3 Line 15
	Multiply by **combined annual target** (appearance contacts target plus taste and odour contacts target) for every 1,000 population

B3 Number of catchment management schemes - as defined within the document C5: Investment Case 'Environment', which captures full details of the methodology for the catchment management schemes.

During AMP6 we are undertaking a total of two catchment management schemes:

- Cam & Frome catchments (safeguard zone) of the Gloucester & Sharpness Canal
- Mendip Lakes Partnership Project – covering the catchments (safeguard zones) for Chew Valley and Blagdon reservoirs, and the Line of Works

During AMP7 we will be undertaking a total of 3 catchment management schemes:

- Cam & Frome catchment (safeguard zone) of the Gloucester & Sharpness Canal – continuation of No. 1 above
- Mendip Lakes Partnership Project – covering catchments (safeguard zones) for Chew Valley Reservoir, Blagdon, Line of Works as No. 2 above, but also now including Cheddar Springs and Egford Borehole safeguard zones
- River Axe safeguard zone upstream of Brinscombe abstraction
- C4 Number of people receiving help paying their water bill

Historical Breakdown of Data

Breakdown of Data			
	2015-16	2016-17	2017-18
Assist	3696	4813	5110
Restart Plus/Assist	1171	730	
Restart/Assist	1241	805	1329
Social Tariff Children	1134	1327	1599
Social Tariff Medical	726	833	988
Pension Credit Tariff	75	1328	4681
Total	**8043**	**9836**	**13707**

Forecast

Table 1 sets out the number of identifiable eligible customers for social tariff suite by type from CACI, a marketing technology & data specialist organisation. Their insights help our

understanding of our customers. This tells us that today that there are over 25,000 customers in our area that could benefit from one of our social tariffs.

	Total eligible (CACI model, March 2018)	Current volume March 2018	Opportunity
Assist	12,675	6,439	6,236
WaterSure	4,006	2,587	1,419
Pension Credit	8,848	4,681	4,167
Total	25,529	13,707	11,822

Tariff	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total number of metered customers on WaterSure	1,860	2,160	2,587	2,790	2,992	3,195	3,398	3,601	3,803	4,006
Total number of customers on " **Assist**" Social Tariff	6,108	6,348	6,439	7,330	8,221	9,112	10,002	10,893	11,784	12,675
Total number of customers on " **Pension Credit**" Social Tariff	75	1,328	4,681	5,276	5,872	6,467	7,062	7,657	8,253	8,848
Sub total	6,183	7,676	11,120	12,606	14,093	15,579	17,064	18,550	20,037	21,523
Total number of customers on a Social Tariff	8,043	9,836	13,707	15,396	17,085	18,774	20,462	22,151	23,840	25,529

Table 1: CACI data on the number of eligible customers for social tariff

We have calculated an even growth of the numbers to the total eligible number by 2025 which results in the outcomes, by tariff and by year, set out in table below.

There are many ways in which we might do this though broadly we split this into two categories, namely:

- Enhancing our use of internal and external data;
- "Support You" initiative;
- Water meter installations and efficiency;
- Data sharing; and
- Relationships with Third parties, including debt agencies and charities.

Full details of our planned and current activities can be found in Section C2, part 7 of our Business Plan submission (PR19).

- D5 Number of direct procurement water service schemes - See Data Table App21, which confirms there are no direct procurement schemes

- D6 The volume of water traded – To explain the difference between historical data and forecast data, historical information is taken from our APR return and forecasts are an assessment of the likely volumes traded in future. This does not match our WRMP because although we may not operate at full contractual capacity due to wet weather or other drivers, for the purposes of our WRMP we assume full use of the trade (which is largely traded outward from Bristol Water to other organisations). This means that we have a WRMP which is resilient to a range of scenarios including the full volume available under contractual trading terms. We are currently undergoing

negotiations with Wessex Water on trade volumes and forecasts may change as a result. This table aligns with the Data Table Wn2 'exports/imports' (specifically line 44 + line 46)

- E7 Length of rivers improved as a result of WINEP Water Resource schemes. See investment case 'Environment', details of which are :-

  Chew Valley Lake = 3km. Intervention Ref - WSX00238
  River Yeo = 7.5km. Intervention Ref - WSX00839
  It is assumed that the full length of 10.5km will not be completed until the end of AMP7, as this is the considered view as to when the EA will approve completion

- E8 Greenhouse gas emissions from water operations. Forecasts are based on the current actuals as it is not possible to forecast as reduction due to the uncertainty of the UK Emissions factor impacting on the end calculation. Note that APR table 3a is a bespoke measure which uses a different unit (kg CO2e/person rather than ktCO2e) and annual reported kg/person figures in APR Table 3a therefore do not align with the kt/a figures in E8.
  1. Bristol Water calculates its greenhouse gas emissions using the UKWIR Carbon Accounting Workbook
  2. Bristol Water has used the same approach and UKWIR workbook to underpin assumptions made when forecasting future carbon emissions. Therefore our approach and forecasts align with the latest available Defra emissions factor
  3. Bristol Water's method for calculating its carbon emissions, using the UKWIR Carbon Accounting Working, is a location based method as we calculate the quantity of energy used on a site by site basis to understand the total amount of energy the company has used in a given period

- F9 Change in the average residential customer water bill over the period

  AMP7 Forecast – This comes from the finance modelling which feeds into App7 Line 39. This line is then a percentage movement (calculation) from the data for 2020, and the data for 2025 (with 2020 restated in constant CPIH 2017/18 deflated prices.

H13 Number of residential retail customers engaged with on the business plan

The engagement is through all forms of customer engagement such as focus groups, surveys etc.

See evidence attached

http://navigo/regulatory/periodicreview/pr19/Final%20Business%20Plan/G%20-%20Final/C2/Reference%20Docs/Engagement%20numbers.xlsx

Wr1 - Wholesale water resources

This table identifies water resources explanatory variables:, specifically the amount of water from different source categories. The data for the source categorisation follows the Annual Return Reporting Requirements and Definitions for guidance on the allocation.

The data for 2017/18 in this table is included in the Annual Reporting Period (APR) reporting requirements and as such has an assured process. These lines are audited annually by Atkins.

Wn2 lines 13-20 are dependent upon Wr1 lines 1-8.

Bristol Water continues to deliver the majority of its water from three different source categories:

- Water from impounding Reservoirs (23%)
- Water from pumped storage Reservoirs (60%)
- Water from boreholes and groundwater works (17%)

Delivering water through these three source categories continues in AMP7. No water is delivered through river abstraction, artificial recharge or storage schemes, saline or reuse schemes. The percentage split remains the same across the forecast period as there is no planned investment in new resources during this period. This prediction of no resource investment is based on WRMP19 forecast which identifies no deficit that would require new resources in the forecast period.

The number of sources by category is split in the following way, reflecting the higher number of smaller boreholes and ground water works in Bristol Water.

- Number of impounding Reservoirs 3 (12%)
- Number of pumped storage Reservoirs 8 (32%)
- Number of boreholes and groundwater works 14 (56%)

It is assumed that the number of and split by water delivery is unchanged for PR19.

The number and capacity of raw water reservoirs and intake/source pumping stations remains unchanged for PR19, and it is assumed that these are the same as the 2017/18 APR submission.

Average pumping head for line 23 is derived from SCADA data and calculated annually as part of the APR process. The forecast for PR19 is based on a 7-year annual average pumping head from 2011/12 to 2107/18

Bristol Water has no raw water abstraction imports or exports. The forecast for PR19 assumed that this remains unchanged as the WRMP has identified no new sources, new raw water trades or new raw water customers in the PR19 planning period.

Wr2 - Wholesale water resources opex

All values on this table are stated as Outurn for AMP6 and 2017-18 FYA (CPIH deflated) for AMP7

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td>A</td><td colspan="3">Water resources cost analysis</td></tr>
<tr><td>1</td><td>Power</td><td>£m</td><td>
AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP
AMP7
These lines follow all the adjustments applied to the WS1 model with the total of line 6 matching that of WS1 Line 9.

A summary of the adjustments are listed below:
<table>
<tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr>
<tr><td>17/18 Adjusted Base</td><td>1.923</td><td>1.923</td><td>1.923</td><td>1.923</td><td>1.923</td><td>9.615</td></tr>
<tr><td>Opex impact of AMP7 Investment Plan</td><td>0.000</td><td>0.000</td><td>0.000</td><td>-0.013</td><td>-0.013</td><td>-0.025</td></tr>
<tr><td>Input Price Pressure (IPP)</td><td>0.100</td><td>0.130</td><td>0.160</td><td>0.189</td><td>0.219</td><td>0.798</td></tr>
<tr><td>Efficiency</td><td>-0.375</td><td>-0.396</td><td>-0.422</td><td>-0.455</td><td>-0.493</td><td>-2.142</td></tr>
<tr><td>Total</td><td>1.648</td><td>1.657</td><td>1.661</td><td>1.644</td><td>1.636</td><td>8.246</td></tr>
</table>

Opex impact of AMP7 Investment plan – Shows some reduction as we implement more power efficient Assets and processes
Input Price pressure – 1.8% is expected (above CPIH) for the Amp
Efficiency – Based off our target efficiency number (as discussion in greater detail in Section C5 of the narrative). We looked within the business how we could best optimise our current operation. This provided us with areas from to which we could then allocate our efficiency target to best reflect potential efficiency projects. A number of these project related to power and hence we expect to make a material reduction in this cost for AMP7
</td></tr>
</table>

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>Nil Values
We do not expect any costs in the following
• Artificial Recharge water supply schemes
• Aquifer Storage and Recovery water supply schemes’
• Other</td></tr>
<tr><td>2</td><td>Income Treated as negative expenditure</td><td>£m</td><td>A small credit was received in 2017/18 and is expected to be immaterial going forwards therefore we have forecast zero for amp7</td></tr>
<tr><td>3</td><td>Local authority and Cumulo rates</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP
AMP7
<table><tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>AMP7</th></tr><tr><td>17/18 Adjusted Base</td><td>1.287</td><td>1.287</td><td>1.287</td><td>1.287</td><td>1.287</td><td>6.435</td></tr><tr><td>Input Price Pressure (IPP)</td><td>0.070</td><td>0.094</td><td>0.118</td><td>0.143</td><td>0.169</td><td>0.595</td></tr><tr><td>Efficiency</td><td>-0.027</td><td>-0.027</td><td>-0.027</td><td>-0.027</td><td>-0.027</td><td>-0.134</td></tr><tr><td>Total</td><td>1.331</td><td>1.354</td><td>1.379</td><td>1.403</td><td>1.429</td><td>6.896</td></tr></table>
Input Price pressure – 1.8% is expected (above CPIH) for the AMP
Efficiency – There is Efficiency challenge from AMP6 which is seen above. No Impact in AMP7
Nil Values
We do not expect any costs in the following
• Artificial Recharge water supply schemes
• Aquifer Storage and Recovery water supply schemes’
• Other</td></tr>
<tr><td>4</td><td>Other Direct</td><td>£m</td><td>AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP
AMP7</td></tr>
</table>

LINE DESCRIPTION		Unit	Notes

	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7
17/18 Adjusted Base	6.074	6.074	6.074	6.074	6.074	30.370
Opex impact of AMP7 Investment Plan	0.107	0.052	0.011	-0.025	-0.057	0.088
Input Price Pressure (IPP)	0.335	0.445	0.557	0.669	0.784	2.790
Efficiency	-0.258	-0.304	-0.346	-0.383	-0.416	-1.706
Total	6.257	6.268	6.295	6.337	6.383	31.542

Opex impact of AMP7 Investment plan – Opex output from the investment plan shows a small reduction in cost by overall improvements in the operation of the business.
Input Price pressure – 1.8% is expected (above CPIH) for the AMP
Efficiency – Based off our target efficiency number (as discussion in greater detail in Section C5 of the narrative). We looked within the business how we could best optimise our current operation. This provided us with areas from to which we could then allocate our efficiency target to best reflect potential efficiency projects. A number of these projects relate to optimisation of the labour force and materials which is captured here.
Nil Values
We do not expect any costs in the following

- Artificial Recharge water supply schemes
- Aquifer Storage and Recovery water supply schemes'
- Other

5 | Other Indirect | £m

AMP6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP
AMP7

	2020/21	2021/22	2022/23	2023/24	2024/25	AMP7
17/18 Adjusted Base	2.435	2.435	2.435	2.435	2.435	12.175
Opex impact of AMP7 Investment Plan	0.043	0.021	0.004	-0.010	-0.023	0.035
Input Price Pressure (IPP)	0.134	0.179	0.223	0.268	0.314	1.118
Efficiency	-0.104	-0.122	-0.139	-0.153	-0.167	-0.684
Principle Usage Recharge	-0.091	-0.096	-0.093	-0.082	-0.063	-0.425
Total	2.418	2.417	2.432	2.458	2.497	12.223

Opex impact of AMP7 Investment plan – Opex output from the investment plan shows a small

<table>
<tr><th colspan="2">LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>reduction in cost by overall improvements in the operation of the business.
Input Price pressure – 1.8% is expected (above CPIH) for the AMP
Efficiency – Based off our target efficiency number (as discussion in greater detail in Section C5 of the narrative). We looked within the business how we could best optimise our current operation. This provided us with areas from to which we could then allocate our efficiency target to best reflect potential efficiency projects.
Principle Asset Usage Adjustment – Indirect Cost Only
The principle usage recharge adjustment is added to this line inline. These are adjusted for CPIH (The retail data tables shows this in nominal terms). The adjustment is seen in ~ Other operating expenditure excluding renewals in WS1. The values assigned are shown in the table below.
<table><tr><th></th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th></tr><tr><td>Principle Usage Recharge</td><td>- 0.091</td><td>- 0.096</td><td>- 0.093</td><td>- 0.082</td><td>- 0.063</td></tr></table>
Nil Values
We do not expect any costs in the following
Artificial Recharge water supply schemes
Aquifer Storage and Recovery water supply schemes’
Other</td></tr>
<tr><td>6</td><td>Total before depreciation</td><td>£m</td><td>Calculation</td></tr>
<tr><td>7</td><td>Historical Cost Depreciation</td><td>£m</td><td>AMP6
Cheddar 2 Reservoir preliminary expenditure was written off in 2017/18 to a value of £4.73m. 2018/19 and 2019/20 are based on budgets and delivery plans for the AMP.
AMP7
The depreciation figures take current changes to depreciation forecasts up to the end of AMP6 and makes adjustments for the Capex commitments for the AMP
Nil Values
The Artificial recharge and Aquifer storage</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
			• Other
8	Total operating costs (excluding 3rd party)	£m	Calculation
B	**Analysis of abstraction charges (forecast only)**		
9	Application charge	£	We don't not currently foresee any applications
10	Advertising charge	£	We don't not currently foresee any advertising charges
11	Standard charge	£	These charges are based upon government figures from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691736/Abstraction-Charges-Scheme-2018-2019.pdf These are then inflated by IPP (AMP6) and IPP above CPIH (AMP7)
12	Abstraction charges	£	Calculation

Wr3 - Wholesale revenue projections for the water resources price control

Values on this table are stated at Nominal prices for 2019-20 and CPIH deflated for the PR19 years 2020-21 to 2024-25.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.

The tables include the total activity for the Wholesale Company only for Water Resources.

	LINE DESCRIPTION	Unit	Notes
A	**Wholesale water resources revenue requirement aggregated by building blocks**		
1	PAYG ~ wholesale water resources	£m	Linked Calculation 'WS1 line 21 * WR4 line 19
2	Pension deficit repair contributions ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Water Resources'!$L$112 to $P$112 Zero Bristol Water does not have a pension deficit
3	Run off on post 2020 investment ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$226 to $P226
4	Return on post 2020 investment ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$240 to $P$240
5	Run off on RPI inflated 2020 RCV ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$225 to $P$225

	LINE DESCRIPTION	Unit	Notes
6	Return on RPI inflated 2020 RCV ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$239 to $P$239
7	Run off on CPIH inflated 2020 RCV ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!L$224 to $P$224
8	Return on CPIH inflated 2020 RCV ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$238 to $P$238
9	Current tax ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$249 to $P$249 Zero - No Tax charge has been allocated to Wter Resources as it does not generate sufficient taxable profits
10	Re-profiling of allowed revenue ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Exec Summary'!$L$203 to $P$203 Zero - No re-profiling has been used.
11	PR14 reconciliation revenue adjustments ~ wholesale water resources	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Exec Summary'!$L$200 to $P$200 Zero - No revenue adjustments have been allocated to Water Resources
12	Total wholesale water resources revenue	£m	2019-2020 Revenue has been forecast forward from APR18 and split as per the Ofwat model split for 2020-21

	LINE DESCRIPTION	Unit	Notes
	requirement		**Apportionment of 2019-20 Revenue as per 2020-21** Water Resources £m's Water Network Plus £m's Wholesale Revenue £m's FY2021 to 2025 Calculation
B	**Wholesale water resources ~ other price control income**		
13	Third party revenue ~ wholesale water resources	£m	Zero This has been forecast forward from APR18 and assumed to remain zero
C	**Wholesale water resources ~ non-price control income (third party services)**		
14	Bulk supplies ~ contract not qualifying for water trading incentives (signed before 1 April 2020) ~ water resources	£m	Bulk Supplies has been forecast forward from APR18 and apportioned between Water Resources and Water Network on a projection of our tariff structure and is assumed to remain constant through the AMP. This split was not required in the APR18 return. The value for 2019-20 is at nominal with the AMP7 years deflated.
15	Bulk supplies ~ contract qualifying for water trading incentives (to be signed on or after 1 April 2020) ~ water resources	£m	Zero This has been forecast forward from APR18 and assumed to remain zero
16	Rechargeable works ~	£m	Zero - There are no rechargeable works associated with Water Resources

Apportionment of 2019-20 Revenue as per 2020-21	2019-20	2020-21
Water Resources £m's	18.84	18.55
Water Network Plus £m's	90.82	89.39
Wholesale Revenue £m's	109.66	107.93

	LINE DESCRIPTION	Unit	Notes
	water resources		
17	Other non-price control third party services ~ water resources	£m	Other non-price control third party servies has been forecast forward from APR18 and apportioned between Water Resources and Water Network on a projection of our tariff structure and is assumed to remain constant through the AMP. This split was not required in the APR18 return. The value for 2019-20 is at nominal with the AMP7 years deflated.
18	Total non-price control income (third party services) ~ water resources	£m	Calculation
D	**Wholesale water resources ~ non-price control income (principal services)**		
19	Wholesale water resources non-price control income (principal services)	£m	Zero - There are no non-price control principle services associated with Water Resources
E	**Wholesale water resources charges**		
20	Water resources unmeasured charge ~ residential	%	Revenue forecasts were derived by taking the revenue forecasts assumed in 2018-19 tariffs between measured and unmeasured household and non-household customers. The calculation takes account of forecast movements in property numbers within draft Water Resources Plan projections. In particular the number of new connections (which are all measured properties) and properties moving from unmeasured to measured, due to opting for a meter or our change of occupier metering programme. These property movements are aligned to forecast movements in the annual volume consumed by each customer type, also set out in the WRMP table. The calculation divides the forecast 2018-19 revenue by customer type by the forecast 2018-19 consumption volume, to produce a base revenue per volume for each customer type. The calculation was applied the base revenue per volume for each customer type (to the projected volumes included within the water resources plan forecasts, to calculate the proportions in which
21	Water resources unmeasured charge ~ business	%	
22	Water resources measured charge ~ residential	%	

	LINE DESCRIPTION	Unit	Notes
23	Water resources measured charge ~ business	%	the total revenue identified in line 12, excluding non-price control income in line 18, would be allocated between the different property types. The same proportions are used for water resources and water network as all our customers' supplies are delivered through water resources and water network activities and liable to charges through both controls. The balance between business and retail customers is stable, with growth in residential customers offset by metering and water efficiency savings. The metering and water efficiency explains the shift from unmeasured households to measured households.
24	Total wholesale water resources allowed revenue	£m	Calculation
F	**Grants & contributions**		
25	Water resources grants and contributions (price control)	£m	Linked to Grants on WS1 Line 20 for Water Resources Zero - There are no Grants or Contributions associated with Water Resources
26	Water resources grants and contributions (non-price control)	£m	Zero - There are no Grants or Contributions associated with Water Resources
G	**Revenue control total ~ wholesale water resources**		
27	Revenue control total ~ wholesale water resources control	£m	Calculation

Wr4 - Cost recovery for water resources

All values on this table are stated at nominal prices.
The tables include the total activity for the Wholesale Company only for Water Resources.

	LINE DESCRIPTION	Unit	Notes
A	**RCV run off rate ~ RPI linked RCV**		
1	"Natural" RCV run off rate ~ water resources	%	The Bristol Water "natural run-off rate" reflects the expected life of the historic assets so that the recovery is matched with the usage of the assets by future customers this is achieved by linking the natural rate to depreciation charges. This is explained in more detail in Business Plan document C6.
2	Adjustments to RCV run off rate to address transition from RPI to CPI ~ water resources	%	Due to the change to CPIH indexation the allowed return on RCV would be higher (initially at least) due to a higher real WACC, accelerating revenues from future periods. Taking into consideration customer views on stable bills over the long term, we have scaled back the natural RCV rates to protect customers from this potential bill impact. This is explained in more detail in Business Plan document C6.
3	Other adjustments to RCV run off rate ~ water resources	%	Zero There are no other adjustments
4	Total RCV run off rate to be applied ~ water resources RPI wedge linked	%	Calculation
5	Method used to apply run off rate (straight line or reducing balance) ~ water resources RPI wedge linked	text	Reducing balance method has been applied to all of our RCV run-off rates in the financial model, as per previous price reviews. Assets are in practice commonly used beyond their expected lives, the reducing balance method allows utilised assets to be recognised within RCV. Under the reducing balance method, the cost recovery of the original expenditure decreases over time, providing a natural offset to increasing costs of maintenance. This helps to keep cost stable over time.

	LINE DESCRIPTION	Unit	Notes
			This is explained in more detail in Business Plan document C6.
B	**RCV run off rate ~ CPI/CPI(H) linked RCV**		
6	"Natural" RCV run off rate ~ water resources	%	See Line 1
7	Adjustments to RCV run off rate to address transition from RPI to CPI ~ water resources	%	See Line 2
8	Other adjustments to RCV run off rate ~ water resources	%	Zero There are no other adjustments
9	Total RCV run off rate to be applied ~ water resources CPI(H) linked	%	Calculation
10	Method used to apply run off rate (straight line or reducing balance) ~ water resources CPI(H) linked	text	Reducing Balance method used by BW See Line 5
C	**Post 2020 investment run off rate**		
11	"Natural" post 2020 investment run off rate ~ water resources	%	The post 2020 rate is based on the depreciation charges arising from the proposed future capital expenditure excluding infrastructure capital maintenance. This is explained in more detail in Business Plan document C6.
12	Adjustments to post 2020 investment run off rate to address transition from RPI to CPI ~ water resources	%	See Line 2

	LINE DESCRIPTION	Unit	Notes
13	Other adjustments to post 2020 investment run off rate ~ water resources	%	Zero There are no other adjustments
14	Total post 2020 investment run off rate to be applied ~ water resources	%	Calculation
15	Method used to apply run off rate (straight line or reducing balance) ~ water resources	text	Reducing Balance method used by BW See Line 5
D	**PAYG Rate ~ water resources**		
16	"Natural" PAYG rate ~ water resources	%	This rate reflects the level that recovers operating expenditure and infrastructure capital maintenance. This is explained in more detail in Business Plan document C6. The drop in 2022-23 reflect a spike in Capex spend in the year as the PAYG naturally smooths the impact of uneven spend in the bills.
17	Adjustments to PAYG rate to address transition from RPI to CPI ~ water resources	%	Zero There are no adjustments to PAYG for Bristol Water relating to the transition from RPI to CPIH (RCV run-off rates have been used to achieve this).
18	Other adjustments to PAYG rate ~ water resources	%	We made minor adjustments to our PAYG rate to reflect bill profiling and financing considerations as we finalised our plan. This is explained in more detail in C6
19	Total PAYG rate ~ water resources	%	Calculation

Wr6 - Water resources capacity forecasts

- *What does this information tell us*

This table summarises the total capacity (yield) of all water resource zones (WRZ) operated by Bristol Water (which has one zone only) for a 25 year planning period as well as any post-2020 changes to the net import/export of any **raw water** supplies (but not treated water supplies) to/from Bristol Water referred to in Table WR6 by Ofwat as "Third Party Bilateral Trades" in line with the guidance provided in Appendix 5 of the Ofwat PR19 Final Methodology along with Annex 1 of the Ofwat PR19 Draft Methodology. Data are only required for the cumulative total water resources yield (Dry Year Annual Average) lines. There is no Critical Period relevant to the Bristol Water supply system so no data are required for the Dry Year Critical Period lines and these lines are shown as zero.

- *What events have occurred within operations/BAU and how has this impacted on and been addressed or captured within the data.*

As Bristol Water operates a single WRZ, the figures reported for each zone (in this instance a single zone) and the figure reported for the total of all zones will be the same. As explained in Annex 1 of the Ofwat PR19 Draft Methodology, if a source deployable output value has been constrained by the WTW capacity, then the deployable output value should be adjusted to the output that would be available if there was no WTW constraint (this is because the WTW is a Network Plus asset, not a Water Resources asset). For the purposes of this reporting, the water resource capacity of the Bristol Water WRZ is defined as the total deployable output forecast for Bristol Water's sources (including any future new water source developments) as reported to the Environment Agency in the relevant lines of the Water Resources Management Plan Tables 2019. No adjustment is required in this case for any water source where the deployable output value is constrained by the water treatment works (WTW) capacity.

- *Any specific requests from Ofwat (as defined within Ofwat data table guidance)*

Ofwat has issued a clarification on this reporting to state the following and this table has been completed accordingly.

> *"For the avoidance of any confusion we have removed the word 'cumulative' from the line descriptions (e.g. lines 3, 4, 5, 6 and 10 to 13). We have also amended the definitions so that rather than cumulative totals, we refer to total capacity available and we have added the following text to the guidance section: "The post-2020 capacity should be the total available up to and including the year being reported for. For example, if 20Ml/d of new capacity was available in 2020-21, then the reported post-2020 capacity for that year would be 20Ml/d. If a further 10Ml/d is made available in 2021-22, then that years reported post-2020 capacity would be 30Ml/d."*

- *Information on the approach taken*

Deployable Output (DO) and corresponding WAFU has been used for this table in order to provide information on yield of sources as shown in table 4 line 13BL of the WRMP tables. In Bristol's case, DO and source yield are the same because WTW capacity does not constrain the yield of the company's water sources. This is explained in detail in the revised draft WMRP19 and is presented in the Water Resource Market information which was published alongside the draft WRMP19.

- *Describe the basis for forecasts, referencing business cases and company strategy. This will also need a detailed explanation of any key source files and documentation, to include provenance*

The data are taken from the revised draft WRMP19 reporting tables which have passed through assurance in accordance with submission of WRMP19. A small adjustment is then made to align to the Ofwat data definitions, where values for Option P20 (a reduction in the raw water losses) are converted from a negative to a positive value (i.e. to indicate in the Line that this adds to the pre-2020 Deployable Output forecast values).

- *Any material risks to the accuracy of the data and how these have or will be mitigated, including any investment proposals.*

Deployable output is a calculated value which is dependent on the quality of flow metering and hydrological/environmental information available. The PR19 plan includes proposals and investment to investigate and update the available information on water source performance and this is likely to lead to some changes in the deployable output value and therefore source yield after the assessment is complete in AMP7. There is also some uncertainty on the yield benefit that will be obtained from raw water losses reduction. This change is beyond AMP7 and will also be subject to further assessment in WRMP24/PR24.

- *Linkage to PR19 themes of Affordability, Resilience, Customer Service, Innovation*

Water resource capacity is managed in order to provide an optimised cost beneficial and resilient supply of water to customers, at the level which has the greatest benefit to customers and which considers customer preference; willingness to pay; levels of service and drought resilience; and which allows for long-term management and review of water resources in order to allow opportunities for new and innovative approaches to be explored in full.

Wr7 - New water resources capacity ~ forecast cost of options beginning in 2020-25

- What does this information tell us

This table presents information on the value of investment in new resource capacity planned by water companies, where the investment begins in AMP7. The PR19 data table for Bristol confirms that no investment in this category is planned for AMP7.
The table captures data on a water resource zone (WRZ) basis and looks over the same 25 year period as the Water Resources Management Plan. Options to manage demand or losses and leakage (at or downstream of Water Treatment Works) do not need to be included in the table. Options (e.g. treated water imports/exports) that are part of the Network Plus (Price) Control do not need to be included either as they do not contribute to Water Resources Capacity as defined by Ofwat.

- What events have occurred within operations/BAU and how has this impacted on and been addressed or captured within the data.

A full assessment of supply / demand management options has been completed as part of the draft Water Resource Management Plan 2019 (dWRMP19) and this has confirmed that no investment in new resources will be required in AMP7.
If any AMP7 investment in new resources capacity were forecast this would also be reflected in table WR6. Although reduction in raw water leakage is projected in WRMP19 tables, this is not until 2040/2041 and therefore is not included in the reporting for table WR7.

- Describe the basis for forecasts, referencing business cases and company strategy.

Data for this table line are mostly taken from the Water Resources Planning Tables 2019, Tables 5 and 6 as submitted to EA and published alongside the draft WRMP19. Where cost data are required to be entered, the finance team and investment planning team would need to provide the nominal pre-tax cost of capital and asset types and asset life data but as no investment has been identified in this reporting category this action has not been required.

- Any material risks to the accuracy of the data and how these have or will be mitigated, including any investment proposals.

Future five-yearly reviews of resource investment need may lead to a requirement for investment in subsequent AMP periods, but the risk of any new resource capacity investment being required in AMP7 is now extremely low and no further assessment will be required at this stage.

- Linkage to PR19 themes of Affordability, Resilience, Customer Service, Innovation

Water resource capacity is managed in order to provide an optimised cost beneficial and resilient supply of water to customers, at the level which has the greatest benefit to customers and which considers customer preference; willingness to pay; levels of service and particularly drought resilience; and which allows for long-term management and review of water resources in order to allow opportunities for new and innovative approaches to be explored in full.

Wr8 – Wholesale water resources special cost factors

We have submitted one upward cost adjustment claim in the Water Resources price control.

For this claim, source information / data informing the reporting of each line can be found within our final cost adjustment claim submission and the summary cost adjustment claim pro-forma, which forms a combined appendix to Section C5 of the business plan and should be consulted alongside this data table. Within the final cost adjustment claim submission, each claim has a designated chapter.

A description of the claim and confirmation of its type (Line 1 and 2 in this data table) can be found in Section 1 of the respective claim chapter in the final cost adjustment claim submission. Details of the approach to quantifying the claim (which informs the reporting of Line 3 and 4 in this data table) can be found in Section 7 of the respective claim chapter in the final cost adjustment claim submission.

Wr8 - BRL_001 Purchase of Water from the Canal and River Trust – Notes

- We make two payments to the Canal and River Trust. The first relates to EA abstraction licencing, as reported in WS5, which other companies also incur. The second relates to our purchase of water (water sales) from the Trust; this second component forms our cost adjustment claim as reported in WR8. The costs are allocated to the line "Other Operating Expenditure excluding renewals" with a portion (approximately 5%) allocated to "Third Party Services" in the Water Resource price control in WS1, consistent with our allocations in the APR (equivalent table 2B and 4D).
- Reporting of historic costs (Line 4) are based on actual payments to the Canal and River Trust
- Reporting of forecast costs (Line 3) are based on inflating 2017/18 actual costs on the assumption that abstraction volumes from the Sharpness Canal will remain broadly stable over AMP7[2] and reflecting the inflation wedge between the contractual prices (set in reference to RPI) and the reporting requirements of WR8 (in CPIH prices).

Specifically our contractual arrangement with the Canal and River Trust sets prices in RPI. Ofwat's reporting requirements requires forecast costs for 2018/19 and 2019/20 to be in outturn (nominal) prices and 2020/21 forwards to be in 2017/18 FYA (CPIH deflated). Therefore we have reported our projections of the costs for 2018/19 and 2019/20 based on RPI and; for 2020/21 forwards we have projected our costs based on RPI, then re-based 2020/21 costs into 2017/18 CPIH prices. Given that RPI is above CPIH this means, reflecting the respective inflation measures and price base, that 2019/20 costs in WR8 for the claim appear higher than 2020/21 and subsequent years.

We have adopted a prudent and rigorous approach to the identification, shortlisting and development of cost adjustment claims to ensure that we have used the adjustment process responsibly and raise cost adjustment claims only where there is convincing evidence that an adjustment is required. This has been set out in further detail in Section 4.1.6 of the final cost adjustment claim submission.

[2] This is on the basis that volumes abstracted have broadly remained stable in the past

Wn1 - Wholesale network plus raw water transport and water treatment

This table identifies wholesale network plus raw water transport and water treatment explanatory variables and reflects mostly table 4 of the 2017 Cost Assessment submission. Please note Lines 9 to 23 refer to distribution input (DI) from works as the DI figure has a high level of assurance and represents the amount of water which has passed through the full treatment process and into supply. The difference between DI and water treated is not material, as noted in the Jacobs review of this table.

Most of the individual lines in the table are also reported in the Annual Periodic Return (APR) Table 4P (2018 submission). This table covers Non-Financial Data for Wholesale Water Resources, Water Treatment and Water Delivering. Extensive documentation covering the APR process and specifically the data lines reported in this table are available in the relevant Regulatory Affairs Sharepoint site.

As majority of the data table lines are included in the Annual APR process, there is a clear audit process, supported by methodologies and data assurance. Confidence Grades for the individual lines represent those issued as part of the APR process.

There are a number of links to other data tables, most notably Line 9-23 which are linked to the Distribution input in Data table WN2.

As the majority of the data is long term Asset class related, it is envisaged that there is only a marginal level of change to the data in the future. The business as usual activities will have a minor impact on the data table lines, although depending on our water resource situation, there may be a marginal change in any year compared with the long term average performance.

Asset data

Asset related data is generated from the SAP Asset Master Database and reported through the APR process. The AMP6-7 forecast on Asset Data is based on the current Asset base taking into account any changes to the Asset base through the AMP6 delivery program and the proposed PR19 Investment Plan. Any changes to the asset base and the classification of the different works will generate a change to the Asset Master Database.
Based on the current AMP6 Delivery plan and the AMP7 Investment Plan the forecast assumed that no changes will occur to the classification of Works and Size Bands.

All Sites with the Primary Site Function of ‘Treatment Works’ or ‘Raw Water Treatment Works’ are included in the scope for this disclosure. Each reporting line requires a whole number count of Treatment Works Sites that fulfil the Site Categorisation criteria as per the definitions. This will affect Lines 24-38 and 41-48. The Distribution Input (ML/day) in Bristol Water is delivered through four different types of works:

1. SW 4 works (9%)
2. SW 5 works (77%)
3. GW simple disinfection works (1%)
4. GW 3 works (12%)

Water Treated and Proportions of DI bands.

For each outturn year, each Treatment Works is given a site classification by the Production Information Team. The corresponding distribution input volumes are summed for each treatment works grade.

Forecasting of data associated with water treated and proportions of WTW bands is done by applying a longer term average rather than applying the proportions of the most recent (2017/18) annual return. This approach is believed to be the most relevant as this is likely to most accurately represent the flexibility of the distribution network.

77% of the DI in Bristol Water is delivered through plants in band 5 (> 16 Ml/day). This is delivered through 5 out of the 16 Water treatment Works.

This affects Lines 9-23 and 49-56.

Raw Water information & Water treatment Imports

Information on Raw Water transport stations, capacity and average pumping heads are governed through the APR process.

It is assumed that the raw water Asset base will not change during AMP6 and AMP7. No further plans for enlargement or decommissioning of the Raw Water Assets are planned.

There are currently no raw water imports or exports and the forecast is that this will remain unchanged. This view is supported by the proposed Business Plan as well as the Water Resource Management plan. This is also the case for the Water Treatment exports and imports.

Pumping head

This data is governed through the APR process and subject to a high level of assurance. The forecast reflects a more typical year expectation than the lower figure for 2017/18 where use of the Mendip reservoirs was minimised despite only being relatively average summer, following a dry winter 2016/17.

Orthophosphate dosing and Populations

Data is submitted through the current APR process. Forecasts are based on proposed changes to the current level of dosing processes, this takes into account planned activity – chiefly the Alderley Treatment Works orthophosphate scheme supported by the DWI.

Wn2 - Wholesale water network plus water distribution (explanatory variables)

This table identifies wholesale water distribution explanatory variables and reflects table 5 of the 2017 Cost Assessment submission.

There are a number of links between this Table and other PR19 tables:

- Table WN2 line 25 Total Leakage is linked to WS4 Lines 4-5
- Table WN2 Line 13 – 20 are dependent upon Wr1 Lines 1-8.

Current Year 2017-18

Other than Line 19, 20, 43-46 all other lines in the table are also reported in the Annual Periodic Return (APR) Table 4P (2018 submission). This table covers Non-Financial Data for Water Resources, Water Treatment and Water Distribution.

Extensive documentation covering the APR process and specifically the data lines reported in this table used to ensure accurate internal processes for the reporting of this data. These lines are audited annually by Atkins. A cross check for the **Lines 1-18 and 21-42** for 2017/18 has been undertaken to ensure that the figures have been correctly copied from the APR table.
Line 19 and 20 Proportion of distribution input derived from Artificial Recharge and Aquifer storage and recovery are not part of the APR submission and a separate assessment has been made for these two lines. No such facilities are in place.
Line 43-44 Total number and volume of imports/exports are not part of the APR submission, but form part of the Distribution/Water Into supply assessment the methodologies and processes of assessment are part of the APR submission process.

AMP 6 forecast 2018-19 and 2019-20

Assessment method: Current + planned
Each year is equal to the total of the previous year, plus assets planned for commissioning for that year, minus assets planned for decommissioning in that year. Assets planned are obtained from the Capital Delivery Programme and Minor Works Programme.
Thus 2018-19 is based on the reported 2017-18 figures plus planned assets for 2018-19. 2019-20 is based on the figure for 2018-19 plus planned assets for 2019-20.
Projects are identified and allocated to lines in accordance with the procedure documented in the APR methodology for the equivalent APR lines.
This method is applied to **Line 1-2, 9-11 and 31-33.**

Assessment method: Average of a number of years' performance

Line 4, Line 13-20 and Line 42 the forecast for 2018-19 and 2019-20 is an average of 7 years' performance as reported under the APR process (2011/12-2017/18). The forecast for **Line 43-46** is an average of 5 years' performance (2013/14-2017/18)
Where appropriate the lines are cross-checked by comparing the forecast figures against a straight-line extrapolation from the previous three years' figures (2015-16 to 2017-18). The previous three years are used because these are the figures from this AMP, which are the years most likely to have a similar strategy to the next AMP.

Apportionment of planned mains (size): Line 5-8

1. Capital schemes to commission or abandon mains of a certain size, including schemes to renew mains, are identified from the Delivery programme (Capital Investment programme Years 4-5 AMP6).
2. Known renewals, abandonments, and commissioning's from planned projects are applied to each size cohort from the previous years. Pre-works renewals and abandonments are negative. Post-works renewals and commissioning's are positive.
3. The net change resulting from known projects is subtracted from the total length of new mains to give a total length of new mains of unknown size.
4. The proportion of each size cohort of mains is calculated from the current year (2017/18) figures.

The confidence grades for these figures is B2 as there is some degree of uncertainty of size of mains being replaced within any year.

Apportionment of planned mains (age): Line 34-41

1. It is assumed that mains replacement, rehabilitation, and abandonment are undertaken across the network with no regard to the age of the asset.
2. The proportion of the network in each age cohort is calculated from the current year (2017/18) figures.
3. The length of mains planned to be renewed (Line 3) and abandoned (assumed to be the same as the renewal total) for the given year are added to give total possible reduction for the year.
4. Each age cohort is reduced by a fraction of the total possible reduction in proportion to its total length using the reduction from 2016/17 to 2017/18 as the level of proportional change. This proportional reduction is than applied to future years
5. The post-2001 cohort for the year is increased by the sum of the total length renewed and the length of new mains.

The confidence grades for these figures is B2 as there is some degree of uncertainty of size of mains being replaced within any year.

WRMP: Line 12, and 21-27

Direct copy from the externally-assured Water Resources Management Plan tables. The confidence grades for these lines is B2 as there is a degree of uncertainty on the value of the components of the supply/Demand balance for the remainder of AMP6, mainly as a result of the uncertainty of meeting the meter penetration target, which has a direct impact on measured consumption.
These lines are checked by the table owner to ensure that they are copied correctly.

GIS prediction: Lines 28-30

These lines depend on:

- The lead communications pipe strategy;
- The mains rehabilitation strategy;
- The leakage strategy; and
- The number of new connections

Forecasts are based on historic data for the number of lead, galvanised, and other communications pipes replaced each year for last three years (since start of AMP) from GIS. A query report has been set up to identify the type of service replaced. The 2017/18 figure is used as a baseline and the average change is applied each year.
These lines are cross-checked by comparing the forecast figures against a straight-line extrapolation from the previous five years' figures excluding 2017-18 (2013-14 to 2016-17). These years are used because:

- The 2017-18 figures are skewed because of data improvements, and so are excluded.
- The remaining years are readily available and likely to be more reliable than further years' data.

The confidence grades for these figures is B2 as there is a degree of uncertainty on the type of service pipe.

AMP 7 forecast

Current + planned:
The basis for these figures is the same as for the AMP6 forecasts, with the difference that the source for the forecast for each year is the PR19 investment case.
The confidence grade for these lines is A2. Reasonable certainty as this forecast methodology is mainly applied to Asset Database information. This is not subject to significant changes.

Apportionment of planned mains (size):
The mathematical process is identical to that for the AMP6 forecasts.
The confidence grade for these lines is B2 as there is a degree of uncertainty on the level of mains rehabilitation as well as the size of the mains affected by renewal.

Apportionment of planned mains (age):
The mathematical process is identical to that for the AMP6 forecasts.
The confidence grade for these lines is B2 as there is a degree of uncertainty on the level of mains rehabilitation as well as the size of the mains affected by renewal.

WRMP:
Direct copy from the externally-assured Water Resources Management Plan. The confidence grades for these lines is B2 as there is a degree of uncertainty on the value of the components of the supply/Demand balance for AMP7, due to a number of variables, i.e. growth, meter penetration targets and unmeasured domestic usage.

Wn3 - Wholesale revenue projections for the water network plus price control

Values on this table are stated at nominal prices for 2019-20 and CPIH deflated for the PR19 years 2020-21 to 2024-25.
All the values included in this table which are populated from the Ofwat financial model use modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the Wholesale Company only for water network plus.

	LINE DESCRIPTION	Unit	Notes
A	**Wholesale water network revenue requirement aggregated by building blocks**		
1	PAYG ~ wholesale water network plus	£m	Linked Calculation 'WS1 line 21 * WR4 line 19'
2	Pension deficit repair contributions ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Water Network'!$L$112 to $P$112 Zero Bristol Water does not have a pension deficit and this is assumed to be the case throughout AMP7. No revenue recovery would be assumed in any case in line with the PR09 defined benefit Ofwat decision and the scheme is in any case closed to all future accruals. The Trustees have insurance for scheme liabilities in place, so minimal risk exists for the company or members – see document C6.
3	Run off on post 2020 investment ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$414 to $P$414
4	Return on post 2020 investment ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$428 to $P$428
5	Run off on RPI inflated 2020 RCV ~	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$413 to $P$413

	LINE DESCRIPTION	Unit	Notes
	wholesale water network plus		
6	Return on RPI inflated 2020 RCV ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$427 to $P$427
7	Run off on CPIH inflated 2020 RCV ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!L$412 to $P$412
8	Return on CPIH inflated 2020 RCV ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$426 to $P$426
9	Current tax ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Summary_Calc'!$L$440 to $P$440
10	Re-profiling of allowed revenue ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Exec Summary'!$L$227 to $P$227 Zero - No re-profiling has been used.
11	PR14 reconciliation revenue adjustments ~ wholesale water network plus	£m	AMP7 years are populated from the Ofwat financial model as per the Ofwat mapping tool =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Exec Summary'!$L$224 to $P$224 Revenue adjustments are the anticipated penalties resulting from AMP7 underspend of Capex.
12	Total wholesale water network revenue requirement	£m	2019-2020 Revenue has been forecast forward from APR18, the value from WS13 for 2019-20 has split between

	LINE DESCRIPTION	Unit	Notes
			Water resources and Water network as per the Ofwat model split for 2020-21. **Apportionment of 2019-20 Revenue as per 2020-21** Water Resources £m's Water Network Plus £m's Wholesale Revenue £m's FY2021 to 2025 Calculation

	2019-20	2020-21
Water Resources £m's	18.84	18.55
Water Network Plus £m's	90.82	89.39
Wholesale Revenue £m's	109.66	107.93

B	**Wholesale water network ~ other price control income**		
13	Third party revenue ~ wholesale water network plus	£m	Zero This has been forecast forward from APR18 and assumed to remain zero
C	**Wholesale water network ~ non-price control income (third party services)**		
14	Bulk supplies ~ contract not qualifying for water trading incentives (signed before 1 April 2020) ~ water network plus	£m	Bulk Supplies has been forecast forward from APR18 and apportioned between Water Resources and Water Network on a projection of our tariff structure and is assumed to remain constant through the AMP. This split was not required in the APR18 return. The value for 2019-20 is at nominal with the AMP7 years deflated.
15	Bulk supplies ~ contract qualifying for water trading incentives (to be signed on or after 1 April 2020) ~ water network plus	£m	Zero This line is assumed to remain zero as no new contracts are required,

	LINE DESCRIPTION	Unit	Notes
16	Rechargeable works ~ water network plus	£m	This has been forecast forward from APR18 and apportioned 100% to Water Network as per APR18 and is assumed to remain constant through the AMP The value for 2019-20 is at nominal with the AMP7 years deflated.
17	Other non-price control third party services ~ water network plus	£m	Other non-price control third party services has been forecast forward from APR18 and apportioned between Water Resources and Water Network on a projection of our tariff structure and is assumed to remain constant through the AMP. This split was not required in the APR18 return. It relates principally to standpipe hire. The value for 2019-20 is at nominal with the AMP7 years deflated.
18	Total non-price control income (third party services) ~ water network plus	£m	Calculation
D	**Wholesale water network ~ non-price control income (principal services)**		
19	Wholesale water network non-price control income (principal services)	£m	This has been forecast forward from APR18 and apportioned 100% to Water Network as per APR18 and is assumed to remain constant through the AMP. The value for 2019-20 is at nominal with the AMP7 years deflated. This represents rents received for properties formerly associated with network activities net of expenses.
E	**Wholesale water network charges**		
20	Water network plus unmeasured charge ~ residential	%	Revenue forecasts were derived by taking the revenue forecasts assumed in 2018-19 tariffs between measured and unmeasured household and non-household customers. These are as shown in section E of table WS13. The calculation takes account of forecast movements in property numbers within draft Water Resources Plan projections. In particular the number of new connections (which are all measured properties) and properties moving from unmeasured to measured, due to opting for a meter or our change of occupier metering programme. These property movements are aligned to forecast movements in the annual volume consumed by each customer type, also set out in the WRMP table. The calculation divides the forecast 2018-19 revenue by customer type by the forecast 2018-19
21	Water network plus unmeasured charge ~ business	%	
22	Water network plus	%	

	LINE DESCRIPTION	Unit	Notes
	measured charge ~ residential		consumption volume, to produce a base revenue per volume for each customer type. The calculation was applied the base revenue per volume for each customer type (to the projected volumes included within the water resources plan forecasts, to calculate the proportions in which the total revenue identified in line 12, excluding non-price control income in line 18, would be allocated between the different property types. The same proportions are used for water resources and water network as all our customers' supplies are delivered through water resources and water network activities and liable to charges through both controls.
23	Water network plus measured charge ~ business	%	
24	Total wholesale water network plus allowed revenue	£m	Calculation The 2021-2025 total in section E, Line 24 does not sum the row or use the same formulae as the cells in Line 24. It is inconsistent with the calculation used in WR3.
F	**Grants & contributions**		
25	Water network plus grants and contributions (price control)	£m	Linked to Grants on WS1 Line 20 and App28. The reduction between 2019/20 and 2020/21 reflects the change to infrastructure charge arrangements in terms of treatment of income offset. See document B2 and App28 commentary.
26	Water network plus grants and contributions (non-price control)	£m	Zero There are no non-price control Grants or Contributions associated with Water Network
G	**Revenue control total ~ wholesale water network**		
27	Revenue control total ~ wholesale water network plus control	£m	Calculation

Wn4 - Cost recovery for water network plus

All values on this table are stated at nominal prices.
The tables include the total activity for the Wholesale Company only for Water network plus.

	LINE DESCRIPTION	Unit	Notes
A	**RCV run off rate ~ RPI linked RCV**		
1	"Natural" RCV run off rate ~ water network plus	%	The Bristol Water "natural run-off rate" reflects the expected life of the historic assets so that the recovery is matched with the usage of the assets by future customers. This is achieved by linking the natural rate to depreciation charges. This is explained in more detail in C6.
2	Adjustments to RCV run off rate to address transition from RPI to CPI ~water network plus	%	Due to the change to CPIH indexation the allowed return on RCV would be higher (initially at least) due to a higher real WACC, accelerating revenues from future periods. Taking into consideration customer views on stable bills over the long term, we have scaled back the natural RCV rates to protect customers from this potential bill impact. This is explained in more detail in C6.
3	Other adjustments to RCV run off rate ~ water network plus	%	Zero There are no other adjustments for Bristol Water
4	Total RCV run off rate to be applied ~ water network plus RPI wedge linked	%	Calculation
5	Method used to apply run off rate (straight line or reducing balance) ~ water network plus RPI wedge linked	text	Reducing balance method has been applied to all of our RCV run-off rates in the financial model, as per previous price reviews. Assets are in practice commonly used beyond their expected lives, the reducing balance method allows utilised assets to be recognised within RCV. Under the reducing balance method, the cost recovery of the original expenditure decreases over time, providing a natural offset to increasing costs of maintenance. This helps to keep cost stable

<table>
<tr><th></th><th>LINE DESCRIPTION</th><th>Unit</th><th>Notes</th></tr>
<tr><td></td><td></td><td></td><td>over time.
This is explained in more detail in C6.</td></tr>
<tr><td>B</td><td colspan="3">RCV run off rate ~ CPI/CPI(H) linked RCV</td></tr>
<tr><td>6</td><td>"Natural" RCV run off rate ~ water network plus</td><td>%</td><td>This is a blended rate (weighted average of the Pre & Post 2020 CPIH calculated RCV run off rate) that considers the natural rate of the historic assets and the rate of AMP7 additions, as set out in the table below.
<table>
<tr><th></th><th></th><th colspan="3">Water Network Plus</th></tr>
<tr><th>RCV Run Off Rates</th><th>Unit</th><th>pre 2020 CPIH</th><th>post 2020 CPIH</th><th>Blended CPIH</th></tr>
<tr><td>Natural RCV rate</td><td>%</td><td>5.91%</td><td>5.45%</td><td>5.82%</td></tr>
</table>
The post 2020 rate is based on the depreciation charges arising from the proposed future capital expenditure excluding infrastructure capital maintenance. This is explained in more detail in C6.</td></tr>
<tr><td>7</td><td>Adjustments to RCV run off rate to address transition from RPI to CPI ~ water network plus</td><td>%</td><td>See Line 2</td></tr>
<tr><td>8</td><td>Other adjustments to RCV run off rate ~ water network plus</td><td>%</td><td>Zero
There are no other adjustments for Bristol Water</td></tr>
<tr><td>9</td><td>Total RCV run off rate to be applied ~ water network plus CPI(H) linked</td><td>%</td><td>Calculation</td></tr>
<tr><td>10</td><td>Method used to apply run off rate (straight line or reducing balance) ~</td><td>text</td><td>Reducing Balance method has been used by BW
See Line 5</td></tr>
</table>

	LINE DESCRIPTION	Unit	Notes
	water network plus CPI(H) linked		
C	**PAYG Rate ~ water network plus**		
11	"Natural" PAYG rate ~ water network plus	%	This rate reflects the level that recovers operating expenditure and infrastructure capital maintenance. This is explained in more detail in C6.
12	Adjustments to PAYG rate to address transition from RPI to CPI ~ water network plus	%	Zero There are no adjustments to PAYG for Bristol Water relating to the transition from RPI to CPIH (RCV run-off rates have been used to achieve this).
13	Other adjustments to PAYG rate ~ water network plus	%	We made minor adjustments to our PAYG rate to reflect bill profiling and financing considerations as we finalised our plan. This is explained in more detail in C6
14	Total PAYG rate ~ water network plus	%	Calculation

Wn6 – Wholesale network plus special cost factors

We have submitted three upward cost adjustment claims in the Network plus price control. This is one less than we submitted at early submission (May 2018) reflecting the decision to drop the Congestion cost adjustment claim on the grounds of materiality. This explains the omission of the BRL_004 item reference in the data table.

For the claims, source information / data informing the reporting of each line can be found within our final cost adjustment claim submission and the summary cost adjustment claim pro-forma, which forms a combined appendix to Section C5 of the business plan and should be consulted alongside this data table. Within the final cost adjustment claim submission, each claim has a designated chapter.

A description of the claim and confirmation of its type (Line 1 and 2 in this data table) can be found in Section 1 of the respective claim chapter in the final cost adjustment claim submission. Details of the approach to quantifying the claim (which informs the reporting of Line 3 and 4 in this data table) can be found in Section 7 of the respective claim chapter in the final cost adjustment claim submission.

WN6 - BRL_002 Water Treatment Complexity – Notes

• Reporting of forecast costs (Line 3) has been based on the additional cost of treating water at our Purton and Littleton treatment works compared to the unit cost across our other sites for 2017/18, with costs adjusted for the Canal and River Trust claim to avoid double counting. This estimate valuation represents the low end for a monetary range for the claim, dependent on if and how Ofwat choses to account for the complexity of works as a driver of water treatment, hence network+ costs
• Reporting of forecast costs (Line 3) have been adjusted to reflect changes in the opex profile of treatment costs over AMP7 resulting from the capital programme as set out in our business plan (downward adjustment – cost savings), as well as input price pressures affecting our cost base above those captured in general inflation (upward adjustment)
• Historic total expenditure (Line 4) is backcast using inflation as the most appropriate method to report historic costs in the absence of actuals

WN6 - BRL_003 Prevailing Wages in Bristol - Notes

• Reporting of forecast costs (Line 3) has assumed that a wage differential (weighted by the mix of occupations employed by Bristol Water) of 5.92% compared to median wages prevailing in the South West more generally, over AMP7. This is based on analysis of Bristol Water and ONS (ASHE) data.
• Reporting of forecast costs (Line 3) and historic costs (Line 4) is based on the same methodology – the multiplication of Network plus botex by the share of labour in botex costs by the 5.92% wage differential. As our botex forecasts already include adjustments for input price pressures above inflation, no further adjustment to our forecast costs for the claim is required

WN6 - BRL_005 Network Age and Materials – Notes

• This claim is made up of two components, a mains age component and a network renewal component.
• Reporting of forecast costs (Line 3) has been based on an econometric approach to estimation based on the inclusion of additional variables to models developed by Oxera for a group of companies in the water sector. The estimate for the mains age component of the claim has been based on calculating

the change in modelled costs estimated by the Oxera reference models when the additional variable 'proportion of mains laid and structurally refurbished prior to 1940' is included. The estimate for the network renewal component of the claim has been based on calculating the change in modelled costs estimated by the Oxera reference models when the additional variable 'proportion of mains refurbished or relined' is included. This estimate for the mains renewal component of the claim has then been adjusted to reflect the proportion of above average mains renewal activity that we undertook in the period 2011/12 to 2014/15 which we expect Ofwat will include in their modelling time frame (2011/12 to 2017/18)

• Historic total expenditure (Line 4) is based on back-casting of econometric estimates for age-related spend and an estimate of the additional costs for mains renewal in the respective years compared to our average (as proxied by the annual reporting line "Maintaining the long term capability of the assets – infra" for treated water distribution).

We have adopted a prudent and rigorous approach to the identification, shortlisting and development of cost adjustment claims to ensure that we have used the adjustment process responsibly and raise cost adjustment claims only where there is convincing evidence that an adjustment is required. This has been set out in further detail in Section 4.1.6 of the final cost adjustment claim submission.

R1 - Residential Retail

Historical data re-statements

From 2015/16 and backwards the total costs have been split between unmeasured and measured via a proxy calculation (based on the number of measured/unmeasured households recorded in each year) as this was not previously split out for reporting purposes; approximation only.

In 2016/17 as well as the current year regulatory reporting we also had to report Cost assessment tables which restated prior years in line with the most recent regulatory accounting guidelines. This meant that the restated figures differed to those previously reported under different Regulatory Accounting Guidelines. For 2016/17 and 2017/18 our R1 figures tie back to those reported in the latest APR

Block A

<table>
<tr><th>Row</th><th>Line Description</th><th>Explanation</th></tr>
<tr><td>1</td><td>Customer services</td><td>
The historical costs 2013-18 have all been restated to comply with the latest guidance regulatory accounting guidelines.

AMP 6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7
Forecast figures are based on 2017-18 base operating costs with uplift for new connection and metering costs.
They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

<table>
<tr><th>Customer Services</th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>Total</th></tr>
<tr><td>2017/18 Base</td><td>2.39</td><td>2.39</td><td>2.39</td><td>2.39</td><td>2.39</td><td>11.95</td></tr>
<tr><td>New Connections</td><td>0.13</td><td>0.16</td><td>0.19</td><td>0.22</td><td>0.25</td><td>0.94</td></tr>
<tr><td>Optants/Selectives</td><td>0.07</td><td>0.08</td><td>0.08</td><td>0.09</td><td>0.10</td><td>0.41</td></tr>
<tr><td>IPP</td><td>0.17</td><td>0.22</td><td>0.27</td><td>0.31</td><td>0.37</td><td>1.33</td></tr>
<tr><td>Efficiency</td><td>-0.44</td><td>-0.46</td><td>-0.47</td><td>-0.48</td><td>-0.50</td><td>-2.35</td></tr>
<tr><td>Total</td><td>2.32</td><td>2.39</td><td>2.46</td><td>2.53</td><td>2.60</td><td>12.29</td></tr>
</table>

New Connections – customer services are strongly linked to the size of our customer base, therefore an increase in New Connections will increase our customer services cost
Optants – Due to the premium cost of payment handling and billing related to metered households compared to unmetered households we would expect a rise in customer service costs as more customers switch
</td></tr>
</table>

<table>
<tr><td></td><td></td><td>Input Price Pressure – We have applied Input Price Pressure of 1.95% pa as advised from the Economic Insights report
Efficiency – Our Efficiency figure is a combination of One Off efficiency catch up (5.4%) and Frontier Shift (0.42% pa) advised by the Economic Insights pack. Section C5 shows greater detail of how we will achieve these efficiency savings</td></tr>
<tr><td>2</td><td>Debt management</td><td>The historical costs 2013-18 have all been restated to comply with the latest guidance regulatory accounting guidelines.

AMP 6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7
Forecast figures are based on 2017-18 base operating costs with uplift for new connection and metering costs.
They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

The AMP 7 forecast figures are based on 2016-17 base operating costs with uplift for new connection and metering costs.
They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

<table>
<tr><th>Debt Management</th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>Total</th></tr>
<tr><td>2017/18 Base</td><td>0.56</td><td>0.56</td><td>0.56</td><td>0.56</td><td>0.56</td><td>2.78</td></tr>
<tr><td>New Connections</td><td>0.03</td><td>0.04</td><td>0.04</td><td>0.05</td><td>0.06</td><td>0.22</td></tr>
<tr><td>Optants</td><td>0.02</td><td>0.02</td><td>0.02</td><td>0.03</td><td>0.03</td><td>0.12</td></tr>
<tr><td>IPP</td><td>0.04</td><td>0.05</td><td>0.06</td><td>0.07</td><td>0.09</td><td>0.31</td></tr>
<tr><td>Efficiency</td><td>-0.10</td><td>-0.11</td><td>-0.11</td><td>-0.11</td><td>-0.12</td><td>-0.55</td></tr>
<tr><td>Total</td><td>0.54</td><td>0.56</td><td>0.58</td><td>0.59</td><td>0.61</td><td>2.89</td></tr>
</table>

New Connections – debt management costs are strongly linked to the size of our customer base, therefore an increase in New Connections will increase our debt management cost
Optants – Due to the premium debt management cost related to metered households compared to unmetered households we would expect a rise in customer service costs as more customers switch
Input Price Pressure – We have applied Input Price Pressure of 1.95% pa as advised from the Economic Insights report
Efficiency – Our Efficiency figure is a combination of One Off efficiency catch up (5.4%) and Frontier Shift (0.42% pa) advised by the Economic Insights pack. Section C5 shows greater detail of how we will achieve these efficiency savings</td></tr>
<tr><td>3</td><td>Doubtful debts</td><td>The historical costs 2013-18 have all been restated to comply with the latest guidance regulatory accounting guidelines.</td></tr>
</table>

AMP 6

2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7

Forecast figures are based on 2017-18 base operating costs with uplift for new connection and metering costs.

They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

Doubtful Debt	2020/21	2021/22	2022/23	2023/24	2024/25	Total
2017/18 Base	2.91	2.91	2.91	2.91	2.91	14.56
New Connections	0.12	0.15	0.17	0.20	0.23	0.87
Optants/Selectives	0.00	0.00	0.00	0.00	0.00	0.00
IPP	0.20	0.25	0.31	0.36	0.42	1.54
Efficiency	-0.52	-0.53	-0.54	-0.56	-0.57	-2.72
Total	**2.71**	**2.78**	**2.85**	**2.92**	**2.99**	**14.25**

New Connections – doubtful debt costs are strongly linked to the size of our customer base, therefore an increase in New Connections will increase our doubtful debt costs

Input Price Pressure – We have applied Input Price Pressure of 1.95% pa as advised from the Economic Insights report

Efficiency – Our Efficiency figure is a combination of One Off efficiency catch up (5.4%) and Frontier Shift (0.42% pa) advised by the Economic Insights pack. Section C5 shows greater detail of how we will achieve these efficiency savings

4 Meter reading

The historical costs 2013-18 have all been restated to comply with the latest guidance regulatory accounting guidelines.

AMP 6

2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7

Forecast figures are based on 2017-18 base operating costs with uplift for new connection and metering costs.

They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

Metering	2020/21	2021/22	2022/23	2023/24	2024/25	Total
2017/18 Base	0.29	0.29	0.29	0.29	0.29	1.45
New Connections	0.03	0.03	0.04	0.05	0.05	0.20
Optants/Selectives	0.09	0.10	0.11	0.12	0.13	0.55
IPP	0.03	0.04	0.04	0.05	0.06	0.22
Efficiency	-0.07	-0.07	-0.08	-0.08	-0.09	-0.39
Total	**0.37**	**0.39**	**0.41**	**0.43**	**0.45**	**2.03**

<table>
<tr><td></td><td></td><td>New Connections – As all new connections will be metered households these will have a metering cost attached to them
Optants – Households switching to metering will have a meter reading cost attached to them
Input Price Pressure – We have applied Input Price Pressure of 1.95% pa as advised from the Economic Insights report
Efficiency – Our Efficiency figure is a combination of One Off efficiency catch up (5.4%) and Frontier Shift (0.42% pa) advised by the Economic Insights pack. Section C5 shows greater detail of how we will achieve these efficiency savings</td></tr>
<tr><td>5</td><td>Other operating expenditure</td><td>The historical costs 2013-18 have all been restated to comply with the latest guidance regulatory accounting guidelines.

AMP 6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7
Forecast figures are based on 2017-18 base operating costs with uplift for new connection and metering costs.
They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

<table>
<tr><th>Other Operating Expenditure</th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>Total</th></tr>
<tr><td>2017/18 Base</td><td>2.98</td><td>2.98</td><td>2.98</td><td>2.98</td><td>2.98</td><td>14.92</td></tr>
<tr><td>New Connections</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>Optants/Selectives</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>IPP</td><td>0.20</td><td>0.25</td><td>0.30</td><td>0.35</td><td>0.40</td><td>1.49</td></tr>
<tr><td>Efficiency</td><td>-0.51</td><td>-0.52</td><td>-0.53</td><td>-0.53</td><td>-0.54</td><td>-2.63</td></tr>
<tr><td>Total</td><td>2.67</td><td>2.71</td><td>2.76</td><td>2.80</td><td>2.84</td><td>13.78</td></tr>
</table>

Input Price Pressure – We have applied Input Price Pressure of 1.95% pa as advised from the Economic Insights report
Efficiency – Our Efficiency figure is a combination of One Off efficiency catch up (5.4%) and Frontier Shift (0.42% pa) advised by the Economic Insights pack. Section C5 shows greater detail of how we will achieve these efficiency savings</td></tr>
<tr><td>6</td><td>New line for Local Authority and Cumulo Rates</td><td>Change in Pro Forma requested by Ofwat, Local Authority and Cumulo rates have been moved out of Other Operating Expenditure and on to their own line.

The historical costs 2013-18 have all been restated to comply with the latest guidance regulatory accounting guidelines.

AMP 6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7
Forecast figures are based on 2017-18 base operating costs with uplift for new</td></tr>
</table>

<table>
<tr><td></td><td></td><td>connection and metering costs.
They also include the impact of the One Off efficiency catch up (5.4%), Input Price Pressure (1.95% pa) & Frontier Shift (0.42% pa) advised by the Economic Insights pack.

<table>
<tr><th>Local Authority and Cumulo Rates</th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>Total</th></tr>
<tr><td>2017/18 Base</td><td>0.01</td><td>0.01</td><td>0.01</td><td>0.01</td><td>0.01</td><td>0.03</td></tr>
<tr><td>New Connections</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>Optants/Selectives</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>IPP</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>Efficiency</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>Total</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.01</td><td>0.02</td></tr>
</table>

Input Price Pressure – We have applied Input Price Pressure of 1.95% pa as advised from the Economic Insights report
Efficiency – Our Efficiency figure is a combination of One Off efficiency catch up (5.4%) and Frontier Shift (0.42% pa) advised by the Economic Insights pack. Section C5 shows greater detail of how we will achieve these efficiency savings</td></tr>
<tr><td>7</td><td>Pension deficit repair costs</td><td>This figure has historically been zero, and has been confirmed by our reporting team that this is likely to be the case going forward</td></tr>
<tr><td>8</td><td>Total operating expenditure (excluding third party services)</td><td>Formula driven – sums lines 1-7</td></tr>
<tr><td>9</td><td>Third party services operating expenditure</td><td>BW does not provide any services to third parties, therefore cost is zero</td></tr>
<tr><td>10</td><td>Total operating expenditure, including third party services</td><td>Total operating expenditure, including third party costs. The sum of R1 lines 8 and 9.</td></tr>
<tr><td>11</td><td>Total depreciation on legacy assets existing at 31 March 2015</td><td>AMP 6
2018/19 and 2019/20 are based on budgets and delivery plans for the AMP

AMP 7
For Retail a significant proportion of CAPEX spend is on IT, which tends to have a lifespan of 4/5 years. For this reason we see a significant drop off in depreciation around the 2020 mark for pre 2015 depreciation</td></tr>
</table>

<table>
<tr><td>12</td><td>Total depreciation on assets acquired between 1 April 2015 and 31 March 2020</td><td>For Retail a significant proportion of CAPEX spend is on IT, which tends to have a lifespan of 4/5 years. For this reason we see a significant drop off in depreciation around the 2025 mark for 2015-20 depreciation</td></tr>
<tr><td>13</td><td>Total depreciation on assets acquired after 1 April 2020</td><td>Jump in 2021/22 due to depreciation from the £1m billing system spend in the year 2020/21</td></tr>
<tr><td>14</td><td>Total residential retail costs (opex plus depreciation, excluding third party services)</td><td>Formula Driven</td></tr>
<tr><td>15</td><td>Capital expenditure on assets principally used by retail

(This figure was negative in 2016/17)</td><td>Bristol Water takes 25% of Pelican (our service provider) Capital Expenditure (with the other 75% going to Wessex Water). There is a significant uplift in 2020/21 CAPEX due to a £4m New Billing Project, Bristol Water will see £1m as a result of this project.
We have applied IPP of 0.74% (IT specific IPP as this makes up the majority of our CAPEX) and Frontier Shift of 0.28%. Over AMP this gives us a total CAPEX spend of £2.08m

<table>
<tr><th>CAPEX</th><th>2020/21</th><th>2021/22</th><th>2022/23</th><th>2023/24</th><th>2024/25</th><th>Total</th></tr>
<tr><td>Forecast CAPEX Spend</td><td>1.21</td><td>0.21</td><td>0.21</td><td>0.21</td><td>0.21</td><td>2.04</td></tr>
<tr><td>IPP (0.74%)</td><td>0.03</td><td>0.01</td><td>0.01</td><td>0.01</td><td>0.01</td><td>0.06</td></tr>
<tr><td>Frontier Shift (-0.28%)</td><td>-0.01</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>-0.02</td></tr>
<tr><td>Total</td><td>1.23</td><td>0.21</td><td>0.21</td><td>0.21</td><td>0.22</td><td>2.08</td></tr>
</table>

(2016/17 Negative figure)
The fixed asset register has assets under construction (AUC) where expenditure is settled to during the year and as and when the project is capitalised, the expenditure is deducted from the AUC and transferred to an actual asset. When capitalising the expenditure, the AUC amounts are analysed and will be split out in more detail and may span different business units. Additionally there are also credits against some of the AUCs due to adjustments e.g. accruals reversals/credit notes which are then also attributed to assets they relate to.</td></tr>
</table>

		As at 31/03/17	
		Retail HH AUC totals 16/17	-£499,391
		Retail HH Assets capitalised 16/17	£462,765
		Total Retail HH expenditure	- £36,626
		As at 31/03/16	
		Retail HH AUC totals	-£101,663
		Retail HH Assets capitalised 15/16	£388,614
		Total Retail HH expenditure	£286,951

Block B

Row	Line Description	Explanation
16	Household connected	Historical and forecast figures are taken from the WRMP19 Baseline Demand Forecast As per OFWAT guidance this figure represents the average number of customers for each year and represents billed properties.

Block C

Row	Line Description	Explanation
17	Demand-side water efficiency ~ gross retail expenditure	Historical figures are taken from the relevant cost centres which sit within Wholesale. Figures are adjusted by the Wholesale Forecast methodology as well as a staggered £150k uplift based on forecast project expenditure
18	Demand-side water efficiency ~ expenditure funded by wholesale	Fully funded by Wholesale
19	Demand-side water efficiency ~ net retail expenditure	Formula driven – net of rows 17 & 18
20	Customer-side leak repairs ~ gross retail expenditure	Historical figures are taken from the relevant cost centres which sit within Wholesale. Figures are adjusted by the Wholesale Forecast methodology
21	Customer-side leak repairs ~ expenditure funded by wholesale	Fully funded by Wholesale
22	Customer-side leak repairs ~ net retail expenditure	Formula driven
23	Total demand-side water efficiency and customer-side leak repairs ~ net retail expenditure	Formula driven

Block D

Row	Line Description	Explanation
24	Recharge from wholesale for legacy assets	Where an asset is principally used by wholesale, the capex and depreciation should be recorded in wholesale with a recharge made to household retail to reflect the proportion of the asset used by residential retail. This recharge covers depreciation. Historical figures are taken from APR tables and split out into pre/post 2015 based on analysis of the assets in our ledger Forecast data uses a mix of ledger data combined with forecast asset expenditure
25	Income from wholesale for legacy assets principally used by retail (assets existing at 31 March 2015)	This has historically been zero return and our reporting team has confirmed that this is likely to be the case going forward
26	Recharge from wholesale assets acquired after 1 April 2015 principally used by wholesale	Where an asset is principally used by wholesale, the capex and depreciation should be recorded in wholesale with a recharge made to household retail to reflect the proportion of the asset used by residential retail. This recharge covers depreciation. Historical figures are taken from APR tables and split out into pre/post 2015 based on analysis of the assets in our ledger Forecast data uses a mix of ledger data combined with forecast asset expenditure
27	Income from wholesale assets acquired after 1 April 2015 principally used by retail	This has historically been zero return and our reporting team has confirmed that this is likely to be the case going forward

R2 - Residential retail special cost factors

R2 is complete as blank. This reflects our decision to not submit any residential retail cost adjustment claims at final submission (as was also the case at early submission).

This is confirmed in our cost adjustment claim submission, which provides greater detail on the rational for this decision (Section 4.1.1). This submission forms an appendix to Section C5 of our business plan on Cost and Efficiency

R3 - Residential retail – further information on bad debt

Block A

Row	Line Description	Explanation
1	Debt management ~ residential	Formula driven – copied from R1, line 2
2	Debt written off ~ residential	Historical Costs are picked up from the APR submissions – table 4F For 2018/19, an additional adjustment was made to recognise the fact that the 2017/18 write-off was lower than would normally be the case due to timing differences. The adjustment to 2018/19 is the shortfall for 2017/18. As a result there is a spike in forecast Debt Written Off for this year Our revenue collection rate is improving BY 0.52% over AMP 7 (assumed bad debt rate falls in 2021 & 2022) while the forecast amount billed figure is gradually increasing The detailed assumptions are set out in B1 and C5 plan sections.
3	Total residential revenue outstanding	Historical costs provided by Pelican who have split out Household data. We previously only collected data on Household/Non Household combined. Impacted by changes in billing level, bad debt rate and assumed price increase as outlined above.
4	Revenue outstanding <3 months (measured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
5	Revenue outstanding 3-12 months (measured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
6	Revenue outstanding 12-24 months (measured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
7	Revenue outstanding 24-36 months (measured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
8	Revenue outstanding 36-48 months (measured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
9	Revenue outstanding >48 months (measured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
10	Revenue outstanding <3 months (unmeasured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile

11	Revenue outstanding 3-12 months (unmeasured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
12	Revenue outstanding 12-24 months (unmeasured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
13	Revenue outstanding 24-36 months (unmeasured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
14	Revenue outstanding 36-48 months (unmeasured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile
15	Revenue outstanding >48 months (unmeasured residential)	Total residential revenue outstanding figure for the year split out based on 2016/17 to 2017/18 maturity profile

Block B

Row	Line Description	Explanation
16	Percentage of revenue collected each year	Revenue collection rate increases due to forecast fall in Bad Debt Rate from Pelican. (Forecast fall of 0.52% in 2020/21 & 2021/22)

Block C

Row	Line Description	Explanation
17	Cost per call	The main reason for the increase in costs was a 3.9% pay increase for staff at our service provider (effective 2018/19). There were also some accrual releases in 2017/18 which meant that the unit costs were marginally lower than they would otherwise have been (c. 3.5%). Our costs have been forecast to increase 1.95% in line with IPP.
18	Cost per email	The main reason for the increase in costs was a 3.9% pay increase for staff at our service provider (effective 2018/19). There were also some accrual releases in 2017/18 which meant that the unit costs were marginally lower than they would otherwise have been (c. 3.5%). Our costs have been forecast to increase 1.95% in line with IPP.
19	Cost per webchat	The main reason for the increase in costs was a 3.9% pay increase for staff at our service provider (effective 2018/19). There were also some accrual releases in 2017/18 which meant that the unit costs were marginally lower than they would otherwise have been (c. 3.5%). Our costs have been forecast to increase 1.95% in line with IPP.

20	Cost per other (Leaflet Request)	The main reason for the increase in costs was a 3.9% pay increase for staff at our service provider (effective 2018/19). There were also some accrual releases in 2017/18 which meant that the unit costs were marginally lower than they would otherwise have been (c. 3.5%). Our costs have been forecast to increase 1.95% in line with IPP.
21	Cost per other (Letters)	The main reason for the increase in costs was a 3.9% pay increase for staff at our service provider (effective 2018/19). There were also some accrual releases in 2017/18 which meant that the unit costs were marginally lower than they would otherwise have been (c. 3.5%). Our costs have been forecast to increase 1.95% in line with IPP.
22	Percentage of contacts by phone	Forecast as 2% annual decrease on 2017/18 volumes as there is likely to be a gradual reduction as customers do more online
23	Percentage of contacts by email	Forecast as 7.5% annual increase as email will continue to grow but rate likely to slow down
24	Percentage of contacts by webchat	Forecast as 10% annual increase will be promoted less going forward and so rate of growth will slow
25	Percentage of contacts by other (Leaflet Request)	Forecast to stay flat at 2017/18 levels as Pension Credit is pushing volumes up but online will offset going forward
26	Percentage of contacts by other (Letters)	Forecast to decrease annually by 2% as letters will reduce naturally over time
27	Percentage total of all contacts	Formula Driven
28	Contact centre costs	Includes Cost Centre calls plus the additional cost of servicing letters (Pelican figures). Costs uplifted by 1.95% to reflect IPP

Block C notes: Contact Centre Costs;

- The original figures supplied by Pelican reflected their interpretation that Ofwat specifically requested Contact Centre costs and as the activity is managed across the business rather than within the Contact Centre, these costs attributable to managing customer letters had been excluded from this metric.
- In their assurance review Atkins suggested that a better approach was to include costs across the whole business that manages customer service contacts.
- We agree with Atkins interpretation and have applied this methodology, resulting in an uplift of around 25% in Contact Centre Costs.

Block C notes: Cost per contact;

- Pelican provided costs using a calculation of: Total Contact Centre Costs ÷ Weighted Contact Volumes

- This was queried by Atkins who suggested the following calculation: Total Contact Centre Costs ÷ total volume of the inbound contacts for each channel in the reporting year
- It's our view that Pelican's methodology best reflects Ofwats guidelines and gives the most accurate figures. Following Atkins revised method would give unrealistically high costs for those channels with low volumes. (For example £427.62 per live chat). For this reason we have used Pelicans original methodology, particularly as this is a recently introduced innovation.

	Volumes	PR19 Figures	Alternative Method
	2017/18		
Telephone Calls	151,194	£3.50	£6.59
Leaflet Requests	4,223	£5.79	£236.09
Emails	39,390	£5.62	£25.31
Letters	41,695	£2.06	£23.91
Live Chat	2,332	£5.62	£427.62
	2018/19		
Telephone Calls	148,170	£3.69	£7.11
Leaflet Requests	4,223	£6.06	£249.56
Emails	42,345	£5.92	£24.89
Letters	40,861	£2.17	£25.79
Live Chat	2,565	£6.16	£410.93
	2019/20		
Telephone Calls	145,206	£3.76	£7.40
Leaflet Requests	4,223	£6.18	£254.43
Emails	45,520	£6.04	£23.60
Letters	40,044	£2.22	£26.83
Live Chat	2,821	£6.28	£380.85

R6 – Business retail special cost factors

R6 relates to business retail cost adjustment claims. As we have exited the market, we have not considered this table. It is complete as blank.

This is confirmed in our cost adjustment claim submission which forms an appendix to Section C5 of our business plan on Cost and Efficiency (see Section 4.1.1).

R7 - Revenue and cost recovery for retail

This table is based on a Notional capital structure.
All values on this table are stated at nominal prices
All the values included in this table are generated from the Ofwat financial modelling tool v14H (18th July 2018) Bristol Water version ID BRL.LD8.002.001.
The tables include the total activity for the retail company only.

	LINE DESCRIPTION	Unit	Notes
A	**Residential retail costs ~ England and Wales**		
1	Total cost to serve	£m	Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Retail_Residential'!$L$99 to $P$99 The cost to serve rates per household (for measured and unmeasured households), used in the Financial Model to generate total cost to serve, are derived from the Opex costs in R1 and divided by the number of households from WS3 for measured and unmeasured households respectively. The wholesale recharges have been apportioned on a pro rata basis by households measured and unmeasured.

Retail Cost to Serve - Customer		**2020-21**
Opex measured from R1 Line14	£m	6.296
Opex unmeasured from R1 Line 14	£m	2.789
Sum of recharges R1 Lines 24 to 27	£m	0.540
Total Cost to Serve		9.625
Add recharges apportioned by customer numbers		
Opex including recharges - measured	£m	6.655
Opex including recharges - unmeasured	£m	2.970
Customer numbers measured	m	338
Customer numbers unmeasured	m	170
Cost to Serve per metered water customer	£	19.68
Cost to Serve per unmetered water customer	£	17.47

	LINE DESCRIPTION	Unit	Notes
2	Net margin (excl tax and interest)	£m	Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Retail_Residential'!$L$98 to $P$98 Being Margin Less Section A Line 3 Tax Less Section A Line 4 Interest
3	Current tax ~ residential retail	£m	Populated from the Ofwat Financial Model =-'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Residential'!$L$19 to $P$19
4	Interest	£m	Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Residential'!$L$16 to $P$16 Interest is an income.
5	EBIT margin	£m	Calculation
6	Retail residential charge ~ total	£m	Calculation
B	**Business retail costs ~ Wales**		
7	Total cost to serve	£m	Zero The table shows a validation error “Entries must be greater than 0” however Bristol Water has exited Retail Business market and thus have no revenue or associated billable costs.
8	Net margin (excl tax and interest)	£m	Zero Bristol Water has exited the Retail Business market. Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Business'!$L$11 to $P$11
9	Current tax ~ business retail	£m	Zero Bristol Water has exited the Retail Business market. Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Business'!$L$19 to $P$19
10	Interest	£m	Zero Bristol Water has exited the Retail Business market. Populated from the Ofwat Financial Model

	LINE DESCRIPTION	Unit	Notes
			=+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]FinStat_Business'!$L$16 to $P$16
11	EBIT margin	£m	Calculation
12	Retail business charge ~ total	£m	Calculation
C	**Retail revenues**		
13	Revenue ~ Water ~ residential retail measured	£m	Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Retail_Residential'!$L$211 to $P$211
14	Revenue ~ Water ~ residential retail unmeasured	£m	Populated from the Ofwat Financial Model =+'[PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb]Retail_Residential'!$L$212 to $P$212
15	Revenue ~ Wastewater ~ residential retail measured	£m	Not applicable to BW
16	Revenue ~ Wastewater ~ residential retail unmeasured	£m	Not applicable to BW
17	Revenue ~ Combined ~ residential retail measured	£m	Not applicable to BW
18	Revenue ~ Combined ~ residential retail unmeasured	£m	Not applicable to BW
19	Revenue ~ residential retail	£m	Calculation
20	Revenue ~ business retail measured	£m	Zero The table shows a validation error “Entries must be greater than 0” however Bristol Water has exited

	LINE DESCRIPTION	Unit	Notes
			Retail Business market and thus have no revenue or associated billable costs.
21	Revenue ~ business retail unmeasured	£m	Zero The table shows a validation error “Entries must be greater than 0” however Bristol Water has exited Retail Business market and thus have no revenue or associated billable costs.
22	Revenue ~ business retail	£m	Calculation

R8 - Net Retail Margins

Row	Line Description	Explanation
1	Required retail margin ~ residential customers	1% as per guidance from Economic Insights “This report sets out an assessment of the appropriate level of household retail EBIT margin to assume for PR19, on behalf of Bristol Water and Wessex Water. Based on a range of evidence, we find that the appropriate margin lies between 0.7% and 3.1%. Whilst, on balance, our view is that Ofwat’s determination of a margin of 1.0% at PR14 was perhaps conservative, for reasons of practicality (coupled with the CMA’s recent energy market analysis, which suggests a margin of 0.9%) we consider it reasonable to continue to assume a margin of 1.0% at this time.” Page 3. This is consistent with Ofwat’s early view as stated in page 183 of its final methodology
2	Required retail margin ~ business customers	As Retail has no business customers this figures is 0

R9 - PR14 reconciliation of household retail revenue

This table takes inputs from:

- PR14 Final Determination
- Actual revenue data reported in APRs
- Revenue forecasts for 2018/19 and 2019/20 based on tariff calculations
- Ofwat HH Retail Model
- Ofwat Revenue Adjustments Model

Updates from early submission

This table was originally submitted as part of the July 2018 reconciliation submission.
Following that submission we identified that the values for line 22, shown to no decimal places, did not have entries to 3dp within the cell as we had intended, to comply with the line requirement. We provided an updated version of the table shortly after the submission and include the values to 3dp within this submission. There was no impact on the calculation of the reward at the end of AMP6.

Application of adjustments

Full details of our approach to population of this table and the adjustments to PR19 revenue and RCV can be found in section C7 of our business plan.

Historic data - prepopulated

The prepopulated data for 2015/16 has an error in the qualitative score for Q4 (A4 2015-16) as the result was 4.47 not 4.46.

This makes the qualitative total in A5 for 15/16 to be incorrect at 63.84, it should be 63.94.

As the quantitative score has been calculated from using the qualitative score by Ofwat, this has resulted in the quantitative score in B6 2015/16 to be incorrect at 74.88 it should be 77.11

The total SIM score in C8 2015/16 of 85 is correct.

This slight error in the historic prepopulated data means the data in App 31 of number of written complaints (A1 and A2 2015/16) do not balance to the quant score of 63.84 in this table but it is correct to 63.94

To demonstrate this we have put our results into the Ofwat SIM calculator and an extract is below. This data was used as part of our audit process to ensure the data was correct both here and in App 31.

Household service incentive mechanism calculator									
Line description		**Item reference**	**Units**	**DPs**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
A	**Quantitative performance**								
1	Unwanted telephone contacts		nr	0	30,012	26,229	35,882	26,220	26,220
2	Written complaints		nr	0	666	1,028	1,474	852	767
3	Escalated written complaints		nr	0	46	81	88	60	54
4	CCWater escalated complaints		nr	0	0	0	0	0	0
5	Quantitative composite score	calc	nr	0	77.11	79.45	103.56	71.77	68.97
6	Quantitative SIM score (out of 25)	calc	nr	2	21.14	21.03	19.82	21.41	21.55
B	**Qualitative performance**								
7	Annual survey score		nr	2	4.41	4.46	4.39	4.50	4.50
8	Qualitative SIM score (out of 75)	calc	nr	2	63.94	64.88	63.56	65.63	65.63
C	**SIM score**								
9	Total annual SIM score (out of 100)	calc	nr	1	85.08	85.90	83.38	87.04	87.18
D	**Properties denominator**								
10	Number of household properties connected for water supply only		nr	0	492,046	496,778	502,633	508,267	514,076
11	Number of household properties connected for water and sewerage services		nr	0					
12	Number of household		nr	0					

	properties connected for sewerage services only								
15	Total connected household properties	calc	nr	0	492,046	496,778	502,633	508,267	514,076

The drop in performance in 2017-18 was an exception and due to four incidents in the financial year – Sea Mills/Willsbridge/Clevedon/Beast from the East.

Forecast data

Forecast to achieve PR14 SIM target of Top 5 performance.

The forecast requires a step change in performance for the previous year; however 17/18 was an exceptionally poor year for SIM due to the high level of incidents.

Several key projects are in place to enhance our customer satisfaction including a pilot to respond to written complaints within 2 working days where possible and the introduction of a customer care team to track each customer journey from start to end.

The internal KPI's have been set to achieve the forecast in this table.

Table Validation Checks

We list below the table validation checks that are not “green”, and explain why this is the case

Table	Validation	Reference
App16 Tangible fixed assets	Line 47 is blank as it refers to business retail	Line left blank to avoid calculations in business retail in financial model. Control does not apply so left blank as per Ofwat table guidance
App18 Share capital and dividends	Lines 8 – 12 suggest a completeness check, but the validation check guidance is more sophisticated than the check itself	To calculate dividend from notional balance sheet – we use line 8 for 2019/20 and lines 9 and 10 for 2020-25. This is correct for the financial model and in line with the guidance.
App19 Debt and interest costs	Line 22 business retail working capital financing cost rate	Line left blank to avoid calculations in business retail in financial model. Control does not apply so left blank as per Ofwat table guidance.
App24 Input proportions	Block F business retail has a validation and 100% total check	All cells blank as control does not apply, as per Ofwat table guidance.
App24a Real price effects (RPEs) and efficiency gains	Block G business retail has a completeness check	All cells blank as control does not apply, as per Ofwat table guidance.
App26 RORE scenarios	Wastewater, Bioresources and dummy controls greyed out but still show validation check	Validation check not relevant – control does not apply
App33 wholesale operating leases reclassified under IFRS16	Wastewater, Bioresources and dummy control blocks	All cells blank as control does not apply, as per Ofwat table guidance.
WS15 PR14 wholesale total expenditure outperformance sharing for the water service	Block F business rates IDOK	Blank as guidance states only activated after successful IDoK. No IDoK triggered
WR6 Water resources capacity forecasts	Block A states values should be positive	Values are positive, or zero, according to the table guidance. Critical period line 2 populated with zero as per table guidance which states “DYCP…where reported”
WR7 – New water resources capacity – forecast cost of options beginning in 2020-25	Block B	No water resource schemes so only Block B completed with zeros in cost, as no cost in WRZ (whole company). Other lines blank
R5 – Business retail – non exited companies operating in England	Table Blank	Validation check not relevant – control does not apply
R7 – revenue and cost recovery in retail	Block B and lines 20 and 21	All cells blank as control does not apply, as per Ofwat table guidance.

Overview of Financial Models Submitted

Table A – Submitted Models

Version	Model Name	Description
1	PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL.xlsb	Base Case NOTIONALISED Model with the Sensi sheet amended from App26 to show the intended RORE analysis
2	PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL.xlsb	Base Case UN_NOTIONALISED Model with the Sensi sheet amended from App26 to show the intended RORE analysis.
3	PR19-14h-for-publication.BRL.LD8.002.001_SECONDARY_NOTIONAL.xlsb	Variant of Version 1 in order to show the Sensi sheet in line with App26
4	PR19-14h-for-publication.BRL.LD8.002.001_SECONDARY_ACTUAL.xlsb	Variant of Version 2 in order to the Sensi sheet in line with App26
5	PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL(uncorrected).xlsb	Version 1 unchanged for the issues listed in Table B *
6	PR19-14h-for-publication.BRL.LD8.002.001_ACTUAL(uncorrected).xlsb	Version 2 unchanged for the issues listed in Table B *
7	PR19-14h-for-publication.BRL.LD8.002.001_SECONDARY_NOTIONAL(uncorrected).xlsb	Version 3 unchanged for the issues listed in Table B *
8	PR19-14h-for-publication.BRL.LD8.002.001_SECONDARY_ACTUAL(uncorrected).xlsb	Version 4 unchanged for the issues listed in Table B *
9	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc1.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 1 within Section C6
10	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc1.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 1 within Section C6
11	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc2a.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 2a within Section C6

12	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc2a.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 2a within Section C6
13	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc2b.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 2b within Section C6
14	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc2b.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 2b within Section C6
15	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc3.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 3 within Section C6
16	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc3.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 3 within Section C6
17	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc4a.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 4a within Section C6
18	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc4a.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 4a within Section C6
19	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc4b.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 4b within Section C6
20	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc4b.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 4b within Section C6
21	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc5.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 5 within Section C6
22	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc5.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 5 within Section C6
23	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc6.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 6 within Section C6
24	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc6.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 6 within Section C6
25	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc7a.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 7a within Section C6

26	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc7a.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 7a within Section C6
27	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc7b.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 7b within Section C6
28	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc7b.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 7b within Section C6
29	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc8.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 8 within Section C6
30	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc8.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 8 within Section C6
31	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc9.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 9 within Section C6
32	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc9.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 9 within Section C6
33	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc10a.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 10a within Section C6
34	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc10a.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 10a within Section C6
35	PR19-14h-for-publication.BRL.LD6B.004.004_NOTIONAL_Sc10b.xlsb	NOTIONALISED model used for Financial Viability Testing Scenario 10b within Section C6
36	PR19-14h-for-publication.BRL.LD6B.004.004_ACTUAL_Sc10b.xlsb	UN-NOTIONALISED model used for Financial Viability Testing Scenario 10b within Section C6
37	PR19-14h-for-publication.BRL.LD8.002.001_NOTIONAL_BWCALCS.xlsb	NOTIONALIED model – includes additional BRL sheet that shows the calculation of company specific tested ratios in the Ofwat model. Can be applied to all other models.

Bristol Water have amended the pro-forma model supplied by Ofwat to correct for a small number of issues identified. These issues are described in Table B below.

* Note that Versions 5-8 in the table above are populated in the same way as Versions 1-4 in the table above but relate to an unamended version of the Ofwat pro-forma model. Versions 5-8 therefore contain inaccuracies but have been submitted in order to demonstrate that we have provided fully populated versions of the model as supplied by OFWAT

Changes made by BW to the logic contained within the Ofwat PR19 model

With the exception of Versions 5-8 in Table A, Bristol Water have amended the model as per the table below.

Table B – List of amendments to Pro-Forma Ofwat Model

	Worksheet	Cells	Old Formula (first cell)	New formula (first cell	Change	Reason
1	InpOverride	L742:U742			Notional Bank interest rate changed to 0.5%	So as not to overstate Cash Interest income
2	InpOverride	J780:U780	= F_Inputs!M$130	= F_Inputs!M$130 +F_Inputs!M131+F_Inputs!M132	Formulae amended to ensure opening balance of floating rate debt is correct	Amending error in the model
3	FinStat_Appointee	E137:U137	= E$22	= E$25	Formulae amended to perform check on Retained Profit AFTER dividends	Amending error in the model
4	Tax Reconciliation	J44:U44	= Wholesale!J$172	= -Wholesale!J$172	Changed signage of the non-equity dividends paid	Amending error in the model
5	Analysis_Appointee	J178:U178	= FinStat_Wholesale!J$11	=- FinStat_Wholesale!J$11	Changed signage of the Wholsale Operating Expenditure within Fast Money calculation	Amending error in the model

We have also supplied a version of a notional model which includes an additional ratio sheet that shows our calculation of Moody's AICR and S&P FFO/Net Debt, which are two ratios we refer to within App10 and through our financial viability testing.