Referral of Bristol Water's determination of price controls for the period from 1 April 2015 – introduction for the Competition and Markets Authority

Executive summary

This document provides an overview of key aspects of the 2014 price review (PR14) framework and final determination for Bristol Water Plc (Bristol Water). The document is intended to act as a signpost to the more detailed published material, explaining:

- in the executive summary, how the PR14 process is different from the 2009 price review (PR09), why we made changes and what this meant for the process;
- in appendix 1, key aspects of Bristol Water's price limit; and
- in appendix 2, a high level description of the framework we used to make the final determination.

It is not intended to reproduce the full set of documents on which final determinations were based. All the key material we used to reach our decisions has been published and can be provided on request. We also provide a glossary in appendix 3 of terms, abbreviations and acronyms.

1. The price review

The price review sought to deliver the best possible outcome for customers across England and Wales (both domestic and non-domestic), the environment and society, now and in the future, ensuring a financially sustainable and resilient sector in the long term.

To achieve this, we wanted to put in place a price review process that focused on what mattered most to customers, the environment and society. We wanted **companies to take more responsibility** for understanding what their customers' priorities were, acting upon them and deliver against expectations in an efficient and sustainable way over the long term. We wanted companies to also take ownership

for managing risk and to be more dynamic and ensure a better allocation of risk and reward (so as to better align the interests of capital investors and company management with the interests of customers).

The framework and final methodology[1] for PR14 was developed to deliver this change and support market development in line with our duties[2]. It did this by incentivising companies to take a new approach and by giving them more flexibility to focus on delivering services to customers efficiently.

It built on the important changes and reform introduced at PR09 retaining aspects of our previous approach which had worked well and delivered substantial investment and improvement in customer service. And it introduced a number of changes to both the framework and process.

We also took a more proportionate and targeted approach. Central to this was targeting our interventions in those areas where they were most needed and had a significant impact on customers.

2. Focusing on customer priorities for the long term

For PR14, **companies had to approach customer engagement differently**. Each company had to directly engage with its customers on issues, using the findings of this engagement to shape its business plan and the delivery incentives it faced. This included each company establishing an independent **customer challenge group (CCG)** to review and challenge the way companies engaged customers and took their views into account. The CCG helped to provide important assurance to us about the quality and effectiveness of companies' direct engagement with its customers.

This comprehensive shift in the relationship between the company, its customers and the regulator reflected the feedback and views of stakeholders on PR09, which was considered to focus too much on the regulator. Both the Cave review[3] and Gray review[4] recommended we take steps to address this.

Each company had to develop, and commit to, a set of **outcomes** in its December 2013 business plan that reflected the direct engagement of customers. This included developing incentives that rewarded or penalised a company depending on

[1] We consulted on our approach to PR14 in 2013, setting out our final methodology statement in July 2013 in 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans'.
[2] Our statutory duties are set out in the Water Industry Act 1991 (WIA91), as amended, and are described in appendix 1.
[3] Independent Review of Competition and Innovation in Water Markets: Final report Professor Martin Cave April 2009.
[4] The Review of Ofwat and consumer representation in the water sector, David Gray, 2011.

performance. This was a substantial and innovative change compared with PR09, intended to encourage companies to focus on customer priorities.

To reinforce this greater ownership of plans, companies also had to take responsibility for **assurance of plans**, and we expected each company's board to set out how it had received assurance that the plan was of a high standard. Companies also had to set out clearly how they had considered that **business plans were affordable for customers** and confirm their plans **could be financed**.

We expect a company that has responded to the framework and takes ownership of its own plan to be better placed to meet the wider challenges[5] the sector faces and continue to deliver for its customers in the long term.

3. Building on past success to improve incentives

The final methodology statement for PR14 delivered a balanced framework that considered the short-term impact of additional changes in approach against the longer-term benefit to customers[6].

After PR09, the UK Government indicated its wish for **sector reform**. Building on the Cave review and subsequent White Paper[7] in 2012, the Water Act 2014 established the introduction of markets in 2017 to allow some more types of customers to benefit from supplier choice. The framework facilitates preparation for the introduction of **customer choice,** revealing information about the cost of providing services and acting as a stepping stone to further evolution of price controls to support identified longer-term sector reform.

For the first time we set **separate binding revenue controls** for:

- wholesale water;
- wholesale wastewater (where applicable);
- household retail; and
- non-household activities[8].

These required **new forms of control** appropriate to the nature and underlying economic characteristics of the activities in the wholesale and retail areas. As a consequence, companies had to revisit the way their business operated. They had to

[5] We have previously explained that these challenges include a changing and unpredictable climate, population growth, economic uncertainty and consequent concerns over affordability, rising environmental standards and rising customer expectations.
[6] For example, the final methodology signalled the phased introduction of non-binding sub limits within water and wastewater wholesale during 2015-20 and decoupling network management from the price review.
[7] Water for Life Market reform proposals, DEFRA December 2011.
[8] We modified companies' licences in July 2013 to enable this; see 'Modification of the conditions of appointment (licences) of all water only and water and sewerage companies' for further details.

understand the underlying costs, services and customer priorities within each price control and the interaction between them when they developed their business plans.

We designed each control to ensure there were strong incentives to deliver efficiently and provide an improved service to all customers. Specific measures we introduced included the following.

- A **total expenditure (totex) approach for wholesale costs.** After PR09 stakeholders were concerned that the way we assessed, remunerated and incentivised operating and capital expenditure in different ways encouraged a focus on capital solutions (at the expense of potentially more innovative and sustainable solutions). Both the Cave review and Gray review recommended we take steps to address these issues. The use of totex, already used within other sectors, was a key measure introduced to help redress this balance and support the delivery of the right outcome for customers.

- **Incentivising companies to go beyond average performance** and move towards frontier efficiency and service performance. By providing such incentives customers benefit in the long term from a better value service. The totex cost allowances we used were set at an upper quartile (UQ) efficiency level. Where we could compare performance across companies we also expected companies to move towards current upper quartile service performance. The use of the UQ is consistent with the efficiency challenge set in other regulated sectors – for example, Ofgem's RIIO-GD1 price control. We also set a high evidential bar for companies to demonstrate why their position was different from others within the sector, assessing any claims consistently against set objective criteria.

- **Providing a better balance of incentives.** Previous price reviews provided incentives for companies to become more efficient and provide better service. But there was concern that this was mainly through penalty driven incentives and the Gray review recommended that we improve the balance between reward for success and penalties for failure. The framework we introduced also encourages companies to seek outperformance across the whole of the business, not just through the outperformance of the cost of finance. Specifically, it encouraged companies to set financial incentives (both reward and penalty) directly linked to performance above and below its committed performance level for each outcome and relative to its allowed total expenditure. These calibrated incentives are directly linked to customer priorities and willingness to pay, and help to align benefits to customers with reward for investors.

- This in turn was aligned to a more **balanced assessment of the risk and reward** that companies faced. Each company had to employ a scenario

based approach to assessing the rewards and penalties appropriate to the risks it faced across the full range of its activities so that both customers and investors benefit from the efficient management of risks.

An important tool introduced to support these changes was the **risk-based review process**[9], which provided companies with incentives to deliver good business planning at an early stage and submit high-quality 'best offers'.

The process assessed each company's plan against objective criteria[10]. Those companies with plans judged to be of exceptional quality were conferred 'enhanced status' and benefited from a range of incentives including an early draft determination and some financial rewards.

All companies benefited from this early opportunity to understand the weaknesses in their plan relative to others, or better understand the final methodology statement and shift in approach necessary to produce good quality plans that delivered the best outcomes for customers in the long term. Other stakeholders, including CCGs, also benefitted from early exposure of our views of the key strengths and weaknesses of the plans when compared alongside each other. Each company could reflect on our assessment and reassess their approach to their plan in light of this.

4. Improving the price review process to deliver for all customers

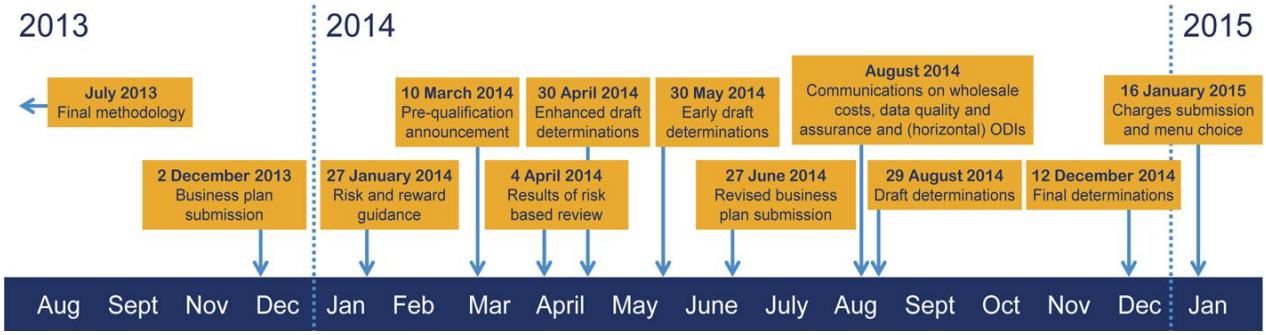
The final methodology statement set companies the challenge of reassessing the way their businesses operated and understanding how they could deliver what customers wanted. It challenged all stakeholders to reassess their roles in, and approach to, the price review. It left considerable discretion with companies to finalise the details of their plans reflecting their customer engagement.

We recognised that this would be a real challenge and engaged with all stakeholders to deliver an effective and successful process. To support this, we followed a very **transparent approach**, publishing all decision documents at each stage, including the populated models[11] we used to make the final determination.

An overall timeline for the review process is set out in figure 1.

[9] Although there are some key differences, the risk based review is similar in concept to Ofgem's 'fast' and 'slow' track approach.
[10] See 2014 price review risk-based review – internal methodology April 2014.
[11] All the populated models used for setting price controls were published.

Figure 1: 2014 price review timeline



Overall, the response from stakeholders to the change in approach was positive and it was clear that they were responding to the greater ownership and flexibility. Some companies were able to deliver high quality plans early in the process, responding to the incentives within the risk based review process. Both South West Water and Affinity Water were assessed as 'enhanced' and able to benefit from an early draft determination and begin to deliver their plan for customers.

We sought to understand the claims which companies were making, seeking explanations and justifications from them using the set assessment criteria to help us do this.

We saw good responses to our assessment of plans at the risk-based review process, with companies revisiting their business plans, reviewing the content and challenging the package of work, required expenditure and incentives in place to deliver good outcomes for customers. For example, some companies were able to reconfigure major proposed schemes in response to our feedback.

Where it was clear that we needed to adapt our approach, or reflect on how best to deliver for customers in light of the evidence from the business plans, we did so. For example, we:

- issued additional risk and reward guidance[12] in January 2014 on seeing that the companies' proposed cost of capital did not seem aligned to market evidence;
- issued further guidance on refining some companies' delivery incentive proposals in light of the good practice examples provided by companies in their business plans; and

[12] 'Setting price controls for 2015-20 – risk and reward guidance'.

- published our assessment of wholesale totex for three companies in advance of their draft determinations to maximise the time each of these companies had to consider our decisions and respond to the consultation.

To protect customers' interests, we placed the onus on all companies to provide compelling evidence to support their proposals.

Our final determinations on 12 December 2014 balanced the needs of customers, companies and their investors, and other stakeholders. It reflected the changes companies' made to their original plans submitted in December 2013, as well as the representations on our draft determination proposals. We accepted company proposals where we could, only intervening where we considered it was in the interests of customers to do so.

5. Bristol Water's final determination

Process and engagement

One of the key aspects of the risk-based review was that it linked the level of engagement between companies and the regulator to the quality of each company's plan. The risk-based review identified two companies with high-quality plans, requiring limited intervention and associated engagement.

These two companies received early draft determinations and required much less intervention, and subsequent engagement, across the process. Two further companies responded quickly to feedback from the risk-based review, revising their plans and receiving their draft determinations earlier than the remaining companies (though without receiving any specific incentives).

The remaining companies had a longer period to consider the feedback from the risk-based review in line with the price review timetable.

Many were able to address a substantial proportion of the issues identified at the risk-based review. This was either through:

- re-scoping plans; or
- by providing improved evidence and explanation of what they proposed.

This provided us with a greater understanding of need, reducing the necessity for interventions in their draft determinations.

A small number of companies still required substantial intervention in some areas in their draft determinations. But once we had reviewed and assessed responses to the

draft determinations, only Bristol Water continued to require very substantial intervention in its final determination[13].

Representations to the draft determination

In its representations to the draft determination[14] Bristol Water suggested that:

- the level of wholesale totex we set was insufficient;
- the cost of capital we applied was too low because we had not provided for additional costs of raising finance because of the company's scale; and
- the changes we made to outcome delivery incentives (ODIs) and performance commitments did not reflect appropriate targets.

We considered all representations on our draft determinations carefully, and our final determinations included a number of significant changes in response to the arguments set out in representations. But we did not accept a number of the arguments made by Bristol Water.

For Bristol Water, we found that some of the information it provided was not:

- sufficiently compelling;
- of sufficient quality; or
- received in sufficient time to be taken into account.

Consequently, the evidence was not sufficient to persuade us that the higher bills the company proposed were justified. Given our focus on customers, we considered that we had to continue to intervene in their interests. Our key interventions in the final determination related to:

- wholesale totex;
- the cost of capital;
- reconciling 2010-15 performance;
- outcomes; and
- financeability.

Of these, the difference in the company's forecast of wholesale totex and the levels of totex that appeared to be properly supported by analytical assessment was particularly significant.

[13] Bristol Water's final determination is set out in the formal notification letter published on 12 December 2014. The detail supporting the final determination is set out in the company specific appendix also published on 12 December 2014. A summary of key aspects of our final determination for the company is provided in appendix 1.
[14] Representations on the draft determination for Bristol Water were published ahead of final determinations.

6. Key issue of final determination – wholesale totex

As illustrated in figure 1, PR14 comprised three distinct stages:

- the risk-based review following the receipt of business plans in December 2013;
- the work on draft determinations between April and August 2014; and
- the work on final determinations between September and December 2014.

Our assessment of the wholesale water cost threshold (£409 million, pre-menu adjustments) for the final determination was significantly below the company's revised forecast of totex (£541 million).

In examining wholesale totex we applied a consistent methodology across all companies at each of these stages. At the risk-based review, Bristol Water's business plan forecasts of expenditure were 63% above our cost thresholds (modelled allowances adjusted for company-specific factors) – by far the largest gap of any company in relation to wholesale water where the next largest was Dee Valley Water with a gap of 14%. This was based on our assessment of Bristol Water's business plan and its special cost factor claims.

In response to the publication of the findings of the risk-based review, Bristol Water submitted a large number of new special cost factor claims, which it said explained the difference between our modelled allowances and its forecasts of costs.

Our assessment of Bristol's submissions

However, our assessment of the company submissions at each stage identified significant weaknesses in proposals and the evidence submitted to support it.

- The original business plan did not sufficiently justify the level of expenditure proposed, and there were substantive weaknesses in the customer engagement used to support the proposed totex. The independent third party assurance commissioned by Bristol Water was not submitted with the original business plan, and when Bristol Water did provide the reports (in response to specific information requests) it became clear that the assurance revealed a number of significant concerns with respect to the underlying efficiency associated with Bristol Water's costs forecasts. Bristol Water appeared to have neither brought these matters to our attention in its business plan nor taken substantive action to deal with the potential weaknesses in its forecasts.

- After the risk-based review we asked companies to submit a 'gap analysis' to us which set out the areas in their business plans they had revised, or intended to revise, and details on the actions the companies plan to take to

bridge the gaps (the revised plan). Some companies actively engaged with us to understand the wholesale costs gaps – for example, Severn Trent Water in respect of the Elan Valley Aqueduct. Although Bristol Water did set out how it intended to address the other areas where there was a gap following the risk-based review they did not provide any evidence on how they were planning to address the wholesale cost gap and therefore we could not provide detailed feedback on that area.

- The revised plan submitted ahead of draft determination included a small reduction in proposed totex with some additional information to explain why its costs were much higher than our modelled allowances. But much of the information was not of sufficient quality which meant its special cost factor claims failed the evidential tests against which we assessed all company claims in the revised plans, to support our draft determinations.

Engagement

Bristol Water was one of three companies at the draft determination with very significant difference in views of the required level of wholesale expenditure – with its gap to our cost thresholds falling only modestly – from 63% at the risk-based review to 57% at draft determination. For these three companies, we published details of our assessment[15] of allowed wholesale expenditure early ahead of the draft determination. This was to allow these companies as much time as possible to review our decision and revisit its proposals in light of this.

All three companies (Bristol Water, United Utilities Water for the wastewater service and Thames Water for the Thames Tideway) were invited to engage further with us to address these gaps ahead of submitting representation to the draft determination. The two other companies took the opportunity to substantially revise their business plan forecasts such that the gaps with our modelled allowances were significantly reduced.

- United Utilities Water substantially revised its business plan and reduced its forecasts of costs by more than £300 million, reducing its gap to our cost threshold for sewerage from 46% at the risk based review to 6% at final determination.

- Thames Water substantially reduced the costs associated with its separate tideway activities from £655 million to £404 million, which allowed us to make a full allowance for these cost at final determination.

[15] See 'Protecting customers where there are very material differences between companies' re-submitted plans and Ofwat's wholesale cost assessment'.

In contrast, Bristol Water reduced its costs forecasts by only £21 million (a reduction from their June business plan of 3.7%) and instead it focused only on explaining why there were special cost factors that meant its costs were exceptionally high.

Following representations we encouraged more engagement with Bristol Water to allow it additional opportunities to demonstrate why its proposed level of totex represented an efficient level. Our assessment of the material provided did not result in a material change in our view of Bristol Water's required expenditure. In addition to reviewing the material provided by the company (as we had done for all companies) we also carried out our own more intensive assessment of Bristol Water's required expenditure (an approach we had not had to take for any other company).

This was because of the very large gap that remained between Bristol Water's cost forecasts and our analysis, and the poor evidence Bristol Water was providing in support of its special cost factor claims. Our concern was that if we set an unduly low cost threshold for Bristol Water, this might not be in the best interests of its customers. That assessment resulted in a narrowing of the gap as with respect to a number of special cost factors we made allowances to safeguard customers even where the evidence provided by Bristol Water had not been compelling. However, there remained a material difference between our view of Bristol Water's required expenditure and the company's view. If the company were to meet the cost threshold set as part of the final determination, it would need to reduce its expenditure by 24%.

Although the company received advanced notice of its draft determination, some of the information from Bristol Water in response to our draft determination proposals was provided very late in the process (although we encouraged Bristol to provide the material as early as possible) – in late October and early November (well after the final date for formal representations on the draft determination, and after the responses from other companies and stakeholders). Bristol Water's final submission, a detailed report on our wholesale cost modelling from its economic consultants Oxera, was submitted on 7 November without the supporting data and files necessary for us to replicate the analysis. The lateness and lack of completeness of these submissions meant that it was difficult to carry out a full assessment ahead of the final determination, but we did consider them as part of our assessment of final determination totex and our wider consideration of whether our modelling provided an appropriate cost threshold for Bristol Water.

We also note that the wholesale water totex menu choice of 125 and associated delivery incentive confirmation made by Bristol Water on 16 January 2015 are lower than those implied by the implicit menu choice of 130 in Bristol Water's final determination, and this suggests that the company is now targeting a level of totex to deliver its performance commitments £31.4 million lower than it justified in its representations.

7. Other issues of final determination

As well as wholesale totex, our final determination included a number of other material interventions, which reflected areas where the company had not provided sufficiently compelling evidence to explain its case. These are summarised in table 1 below.

Table 1 Key interventions summary

Area	Key difference	Impact
Wholesale totex (see A1.2.1)	Our assessment of the wholesale water cost threshold for final determination was significantly below the company's view. Applying the criteria used for all company proposals, we judged that the company had not provided sufficient explanation and evidence to justify all its proposed adjustments to its cost threshold.	Our view was £409 million, (pre-menu adjustments), the company's revised forecast of totex £541 million. Bristol Water made a choice of 125 below their implicit menu choice of 133 (capped at 130). The menu choice of 125 is equivalent to a forecast of wholesale totex of £31.4 million lower than the company's totex of £541 million from its representations to the draft determination.
Cost of capital (see A1.2.2)	Consistent with other companies our assessment was that the market evidence available at that time supported a lower cost of capital than Bristol Water was proposing.	Our view of the cost of capital was 3.6%, the company had proposed 4.4% (the difference is equivalent to revenue of £17 million in 2015-20). We judged that it was not in the interest of customers to provide Bristol Water with an uplift to the industry allowed cost of capital.
Reconciling 2010-15 performance (see A1.2.4)	Consistent with some other non-enhanced companies, we intervened to reflect Bristol Water's performance on water infrastructure during 2010-15. Our final determination adjustments were lower than in the draft determination as we accepted some of the additional evidence and explanation provided by the company in its representation. We also amended our 2010-15 performance adjustments for Bristol Water consistent with our amended	We reduced the company's proposed revenue adjustment by £2.1 million and its proposed regulatory capital value (RCV) adjustment by £17.4 million (this included a £4.1 million shortfall adjustment to reflect water infrastructure serviceability performance).

Area	Key difference	Impact
	shortfall calculation methodology.	
Outcomes (seeA1.2.3)	Consistent with other non-enhanced companies, our assessment of Bristol Water's outcomes identified some areas where intervention was required. This was either because the company's proposals were not considered appropriate in light of a comparative assessment applied consistently across all companies, or its non-comparable outcomes were not sufficiently justified.	We intervened on Bristol Water's performance commitments for 'unplanned customer minutes lost' 'mean zonal compliance' and 'contacts from customers about water quality' based on comparative assessments. We intervened on 'asset reliability – infrastructure' and 'asset reliability – non-infrastructure' based on a company-specific assessment.
Financeability (see A 1.5)	Consistent with our final methodology statement, we considered financeability under a notional capital structure and used a common basis for calculating financial ratios for all companies. We did not accept Bristol Water's proposal for a three year glide-path for allowed revenues and expected average customer bills (proposed in light of the material difference in views on wholesale totex) On a company basis we concluded that they were financeable. We note that since the FD, while Moody's has placed Bristol Water on negative outlook they still retain a Baa1 rating.	We included a one year glide path in order to provide time for Bristol Water to adjust to efficient cost levels. We included a one year glide- path in order to provide time for Bristol Water to adjust to efficient cost levels. We set a flat profile for the remainder of the period (from 2016-17) consistent with Bristol Water's evidence on customer bill preferences. The financeability glide- path provides around £7 million of additional revenue in 2015-16.

Appendices

Appendix 1 Overview of Bristol Water's final determination

A1.1 Background

Our final determination for Bristol Water was published on 12 December 2014 along with our other final determinations. Our final determinations on 12 December 2014 balanced the needs of customers, companies and their investors, and other stakeholders. It reflected the changes that companies' made to their original plans submitted in December 2013. We accepted company proposals where we could, only intervening where we considered it was in the interests of customers to do so.

The final determination for each company was made in accordance with:

- condition B of its licence;
- our statutory duties under the Water Industry Act 1991 (WIA91), as amended; and
- our final methodology statement[i].

Our main statutory duties are (in summary) to:

- protect the interests of consumers, wherever appropriate by promoting competition;
- secure that the companies properly carry out their functions;
- secure that the companies can finance the proper carrying out of their functions; and
- (in relation to English water companies) secure long-term resilience.

Subject to those duties, we also have duties to (among other things):

- promote economy and efficiency; and
- contribute to the achievement of sustainable development.

We have also had regard to relevant guidance from the UK Government, and the principles of best regulatory practice under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only in cases where action is needed.

We issued a letter to Bristol Water[ii] containing the notification of our final determination. That notification is the legal instrument setting out our final determination of price controls for retail activities and wholesale activities.

Further detail on our final determination for Bristol Water, including the company-specific interventions we made to business plans is set out in a company specific appendix[iii]. Our approach is consistent with our final methodology statement and is explained in the relevant draft and final determination policy chapters supporting all the final determinations.

The Key stages of the price review process for Bristol Water are summarised in table A1.1. Throughout the price review process we published detailed feedback on each company's proposals, allowing companies to understand where our concerns lay and to take into account sector best practice in developing business plans.

Table A1.1: Summary of key phases for Bristol Water

Phase	Purpose	When
Business plan submission[iv]	Bristol Water submitted its business plan, setting out its proposed package of price controls for 2015-20. It presented the key elements of its plan to members of Ofwat's Board (executive and non-executive).	2 December 2013 9 December 2013
Risk and reward guidance	Following our initial review of business plans we came to the view that company proposals on risk and reward were not in line with our expectations. We therefore published further specific guidance on risk and reward, including our view on the cost of capital and other key financial parameters.	27 January 2014
Outcome of the risk based review	The risk based review assessed against set criteria the quality of company business plans. When we confirmed which companies had qualified for 'enhanced status' we published our assessment of each company's plan. Each company had the opportunity to consider our feedback ahead of submission of a revised plan.	4 April 2014
Post risk based review	Series of meetings and phone calls with each company for them to clarify the feedback from the risk based review.	April to June
Gap analysis	Following the feedback from the risk based review; companies undertook an analysis of the gaps we identified and provided proposals for how to address them. These were then discussed with company representatives in meetings held in April and June.	13 June 2014 (submission date for gap analysis for those seeking an August draft determination)
Revised business plan	All companies that did not qualify for enhanced status and did not seek an early draft determination submitted revised plans following engagement. These included 2013-14 actual performance.	27 June 2014.
Draft determination	We published draft determinations of price controls based on the information available at that time.	29 August 2014.
Representation	Bristol Water submitted a response to its draft determination. We received a number of responses from other stakeholders on aspects of Bristol Water's draft determination.	3 October 2014

	Bristol Water was invited to discuss their response to our draft determination with key directors working on the price review and the Ofwat Chair and in a series of meetings and phone calls. Bristol Water presented key elements of its response to members of Ofwat's Board (executive and non-executive).	October and November 2014
Final determination	Taking the views and evidence provided by all stakeholders we published Bristol Water's final determination. The company made its menu choice and published recalibrated outcome delivery incentives based on the final determination	12 December 2014 16 January 2014

The **risk based review process** assessed Bristol Water's December 2013 plan against objective set of criteria, applied consistently to all company plans. Overall, assessed against the published criteria, we concluded that Bristol Water did not pre-qualify for enhanced status. We published our detailed assessment of its plan.

The **draft determination** set out the for the first time our assessment of the price control packages for Bristol Water, based on the information available to us at that time. Having reviewed the company's revised plan and the supporting evidence, our assessment was that the evidence did not support the package the company proposed. Consequently, our draft determination for the company contained a number of proposed interventions to protect customers' interests. Our interventions were driven both by our assessment of specific company evidence and evidence of how the company performed relative to other companies (where relevant). The company and all other stakeholders had the opportunity to respond and comment on our proposed decisions and interventions.

Throughout the price review process the most material difference between our assessment and Bristol Water's plan related to wholesale totex. Our assessment and the company's proposals were substantively different. This was reflected in the extent and nature of our engagement with the company compared to other companies.

The final determination

Table A1.2 summarises key highlights from the final determination package. We describe key areas of our final determination of Bristol Water's price controls in the remainder of this appendix.

Table A1.2: Summary of key metrics

Wholesale	Revised business plan	Draft determination	Final determination
Wholesale water totex 2015-20 total (£million)[1]	562.0	383.7	**437.8**
Return on RCV (%)	4.40%	3.70%	**3.60%**
Allowed wholesale revenue in 2015-20 (£million)[2]	580.9	415.6	**450.9**
Wholesale water – K: 2015	0.0%	0.0%	**0.0%**
2016	1.2%	0.8%	**-6.3%**
2017	1.0%	0.7%	**0.7%**
2018	0.8%	0.4%	**-0.2%**
2019	0.9%	0.4%	**0.1%**
Retail – household	**Revised business plan**	**Draft determination**	**Final determination**
Retail cost allowance 2015-20 total (£million)	55.4	46.8	**52.7**
Margin (%)	1.0%	1.0%	**1.0%**
Retail allowed revenue (£million)	60.9	50.8	**57.0**
Retail – non-household	**Revised business plan**	**Draft determination**	**Final determination**
Margin (%)	2.5%	2.5%	**2.5%**
Retail expected revenue (£million)	11.9	7.4	**7.8**
Appointee	**Revised business plan**	**Draft determination**	**Final determination**
Return on regulated equity (RoRE) range[3]	-5.8% to +2.3%	-5.6% to +2.4%	**-5.6% to +2.1%**
Average bill per household customer – water (£)[4]	193	141	**155**

Notes:

1. The allowed totex is different to the cost threshold because allowed totex includes the impact of menus.
2. Wholesale figures are in 2012-13 prices as revenue will be affected by inflation and retail figures are in nominal prices as revenue will not be affected by inflation. The allowed revenue for our final determination is based on an implied menu choice. The company's own menu choice will impact on its allowed revenues and customers' bills from 2020.
3. The RoRE range reflects the company's views and is based on an efficient company with the notional capital structure. Numbers presented are based on calibration of the outcome delivery incentives (ODIs) against an assumed menu choice of a 50% sharing factor. ODIs were recalibrated following company menu choice on 16 January 2015. RORE in this table has not been updated for the company menu choice.
4. Average bill per customer is an unweighted average over the period. The average household bill illustrated above reflects a notional allocation (by Ofwat but based on the company's split of household and non-household customers) of the overall wholesale revenue requirement across household and non-household customer base. In practice, this will depend upon the structure of wholesale charges implemented by the company.

A1.2 Wholesale water price control

A1.2.1 Key issue: Wholesale water totex

1. Final determination

Throughout the price review process the most material difference between our assessment and Bristol Water's plan has been in regard to wholesale totex. This difference was highlighted at the risk based review.

Bristol Water's original Business Plan proposals for wholesale totex identified one area of expenditure which, in its view, could not be explained by the benchmarking of water sector costs – the enhancement spending of £45.4million[16] associated with the Cheddar 2 reservoir. Our assessment of the plan identified that:

- the company had not provided sufficient explanation or supporting evidence in relation to an increase in its totex between 2010-11 and 2012-13 of around 80%, given the importance of this in determining the allowed level of future expenditure
- the customer engagement process undertaken to support the proposals was superficial and the conclusions were not sufficiently robust to support the levels of totex that the company was proposing as necessary and appropriate.
- Bristol Water commissioned third party assurance reports, referred to in the plan as supporting the proposals, however these actually raised significant issues about the proposed cost of delivery and scope of programme. These reports were not submitted alongside the business plan. They were instead submitted following a number of requests from us during the risk based review process. It was unclear the extent to which Bristol Water had reflected on the issues raised in the reports and had reassessed its submitted business plan proposals to address the concerns raised.

As a result of these issues, there was a very large gap between Bristol Water's forecast of costs and our modelling of costs at the Risk-based-review (RBR) – with a difference of £221million or 63% being by far the largest of any company for the relevant wholesale water expenditure.

Following the risk based review and our consultation on our cost modelling the company submitted a revised business plan in June. This included a small reduction in proposed totex and provided additional information to explain why its costs were

[16] Expenditure on Cheddar 2 was £45.4million in Bristol Water's original business plan. This had reduced to £42.75million in Bristol Water's representation to the draft determination.

much higher than our modelled allowances. However, our assessment of this identified the revised business plan information to not be of good quality and, in contrast to a number of other companies, the special cost factors claims put forward by Bristol Water failed the evidential tests[v] we had put in place to judge whether we would adjust the totex levels over the period 2015 to 2020 that customers should be asked to fund.

In particular, the information the company provided to justify its proposed expenditure on the Cheddar 2 reservoir (the biggest element of the company's proposed enhancement spending) failed these tests. Bristol Water failed to provide a balanced assessment and full information in relation to the need case for this development. The justification for this investment was inconsistent, switching between the need to supply water to a new power station and benefits for resilience of the investment. The company failed to provide information on the plans of the power station to use alternative supplies or give a balanced account of its Water Resource Management Plan which actually included scenarios with sufficient supplies without the reservoir development.

Along with two other companies, we gave Bristol Water early warning on 6 August 2014 of the large gap which remained following our assessment of the revised business plan, to give the company extra time to reconsider its proposed totex in light of the wider evidence on totex revealed during PR14 and to gather any further evidence it considered necessary to justify its revised totex proposal.

After receiving Bristol Water's response to the draft determination on 3 October, Bristol Water was the only company that we offered to have further engagement with beyond our standard process on wholesale costs, as set out in the letter to Bristol Water from Sonia Brown of 10 October 2014. Bristol Water submitted further evidence in early November on why its proposed adjustments to the wholesale water cost models were appropriate and in the interest of customers.

In its representations to the draft determination on 3 October the company reduced its proposed totex by £21 million, while retaining the original scope of its business plan. Alongside this, Bristol Water made 15 special cost factor claims and modelling representations. Overall, Bristol Water's final wholesale water totex forecast set out in these representations was £541 million over 2015-20.

Subsequent to 3 October, Bristol Water made two additional representations in support of this revised wholesale water totex forecast – the further submission of a report by its economic consultants Oxera in late October, and finally a more detailed report from Oxera on 7 November. We had only very limited time to assess the later information within the timescales for PR14.

2. Issues for consideration

Our assessment of Bristol Water's representations to the draft determination was carried out in two parts:

- An assessment of each individual claim made by Bristol Water against the criteria used for assessing company claims more generally.
- A wider consideration of whether our modelling provides an appropriate cost threshold for Bristol Water and so provides appropriate protection for customers. This included taking into account the assessment made by the Competition Commission in relation to Bristol Water's costs in its 2010 report, and whether we should allow Bristol Water greater time to achieve an efficient level of costs by the use of glide paths.

Consistent with the wider approach to cost assessment described in our final determinations[vi] we added an extra step in our approach to cost assessment for all companies, in considering whether there was wider evidence that suggested a further change to the cost thresholds would be appropriate. This extra step was particularly important to Bristol Water given the exceptional size of the gap compared to other companies suggested by the above analysis. We set out in detail this process and our considerations in Bristol's company specific appendix.

For Bristol Water's enhancement expenditure we undertook a wider consideration of the required expenditure, including:

- a review of our decisions on scope, appropriate because of the particularly difficult decisions around Cheddar WTW;
- a review of our modelling, consistent with that undertaken for a number of other companies; and
- a review of our efficiency challenge on specific schemes, which was 20% at draft determination which was relatively high compared to that applied to other companies.

Consistent with our approach to enhancement expenditure, we also undertook a wider consideration of the wider modelling and other adjustments we considered making to Bristol Water's base cost thresholds. These include:

- a review of our modelling, consistent with that undertaken for a number of other companies;
- a review of special cost factor claims where there were particularly difficult and marginal decisions; and
- consideration of whether we should allow a totex glide-path for the very large differences in base costs.

We made a total allowance of £93.8 million (30%) on top of the cost threshold calculated by our wholesale cost models following these further reviews. This included additional allowances for base, enhancement and policy expenditure, and it brought the wholesale cost threshold up to £409.2 million (pre-menu adjustments) over 2015-20 at final determination. The corresponding allowed totex in this final determination – after taking into account the capped implied menu choice of 130 – was £437.8 million or £103 million less than the company's revised proposal.

The actual gap faced by the company is smaller than what would be implied when looking at the totex gap. In calculating an expenditure allowance for a company, we combined our own cost baseline and the company's cost projection with weights of 75% and 25% respectively. So for Bristol Water, the difference between the company's plan and the amount that it would ultimately recover from customers was 19.8%.

We asked all companies to make their final menu choice by 16 January 2015. Bristol made a choice of 125 below their implicit menu choice of 133 (capped at 130. The menu choice of 125 is equivalent to wholesale totex of £31.4million lower than the company's totex of £541 million from its representations to the draft determination.

A1.2.2 Key issue: The cost of capital

1. Final determination

In our final determinations, we set a wholesale weighted average cost of capital (WACC) of 3.60%.[vii] This was 0.10% lower than our draft determinations[viii] (which were based on our risk and reward guidance[ix]) based on the latest market evidence, in particular the significant reduction in corporate bond yields in recent months (based on data to 31 October 2014).

As set out in our risk and reward guidance, we asked any company seeking a company specific mark up to sector WACC, should demonstrate that this is cost beneficial to customers. Our final determinations also confirmed that we would only allow a company specific uplift for two companies – Portsmouth Water and Sembcorp Bournemouth Water – where the customer benefits from providing the uplift more than offset the incremental financing costs. While we considered that the other small water only service companies (WoCs), including Bristol Water, had a higher cost of debt (than included in the industry wholesale WACC) there was no robust evidence of an offsetting customer benefit.[x]

2. Issues for consideration

In its revised business plan, Bristol Water adopted most of the key parameters of the Ofwat guidance on the cost of capital, with the two exceptions being the asset beta and the embedded debt cost, which Bristol Water considered should be set on a company specific basis.[xi] It should be noted that we subsequently reduced the cost of new debt in the final determinations and so Bristol Water has not necessarily accepted this part of the determination.

As part of the draft and final determinations we considered whether Bristol Water, together with other water only companies faced incremental financing costs and if so whether there were offsetting customer benefits. Table A1.3 below sets out the main issues of contention between Bristol Water and Ofwat on the incremental financing costs.

Table A1.3: Key issues on cost of capital

Issue	Value	Basis
Asset beta		
Bristol Water	0.3675	Compared to water and sewerage companies (WaSCs) Bristol Water consider that it has higher systematic risk which results from its higher operational gearing. Bristol Water stated this asset beta is consistent with the Competition Commission determination for Bristol Water in 2010.[xii]
Ofwat	0.30	Ofwat beta estimate is based on market evidence of daily and monthly beta and takes account of recent regulatory decisions prior to the final determination. We considered that there is insufficient conceptual validity to show that WoCs face a higher cost of equity than WaSCs in particular given the move to a totex approach and totex menu choices. This is supported by the empirical analysis of water company betas and price to RCV ratios of corporate transactions which are similar for WoCs and WaSCs and evidence that WoC gearing is at a similar level to WaSCs[xiii] We also noted that the RoRE range of Bristol Water is similar to other WoCs and WaSCs, which suggests that Bristol Water has similar risk profile for the 2015-20 period.
Cost of embedded debt		
Bristol Water	3.40%	Based on Bristol Water's estimate of actual embedded debt costs.[xiv]
Ofwat	2.65%	As set out in the final determination, Ofwat's cost of embedded debt estimate also focused on corporate bond benchmarks. The

Issue	Value	Basis
		ten year average of nominal yields on A and BBB rated benchmark corporate debt indices between 2004 and 2013 was 5.65%. Applying an assumption 2.8% for inflation resulted in a real cost of embedded debt estimate of 2.8%. Ofwat estimated that real yields at issuance on water company bonds were significantly lower than this (2.2% on average). Ofwat did not place as much weight on this evidence as not all companies have been able to outperform corporate bond indices to the same extent and some of this outperformance relates to the timing of debt issuance. Ofwat considers that water companies are able to manage the timing of debt issuance, and so it is preferable for companies to bear this risk and therefore benefit from out-performance, but suffer any under-performance. Ofwat did factor in some degree of outperformance compared to the corporate debt benchmarks, as shown by the selection of a point estimate (2.65%) which was below the long-term average cost of debt implied by the benchmark corporate bond indices (2.8%). At final determination, we noted that long term corporate debt benchmarks had fallen by around 10 bps since the January risk and reward guidance, but did not consider that this was sufficient to change our view at final determination. We also allowed issuance costs of 10bps. Consistent with our approach at previous price reviews, we consider it is not in customers' interest to set the cost of capital based on embedded debt costs of individual companies as this would reduce the incentives for companies to finance themselves efficiently. We accepted that small water only companies on average face a higher cost of debt due to their size, and considered a 25 basis adjustment on the efficient notional cost of debt was appropriate.[xv]However, in order to be allowed to recover the additional cost of debt from their customers, we asked companies to demonstrate that this allowance was in the customer interest (the benefits test), as set out below.

Our benefits test for assessing whether providing a company specific uplift would be in the interests of customers considered the increased likelihood that, in the absence of an uplift, a water only company would merge and be lost as a comparator.

Bristol Water opposed both the principle of a benefits test as well as its application.

Regarding the **validity of the benefits test**, Bristol Water submitted that it was contrary to law, because it was inconsistent with our financeability duty and reflected

an inappropriate weighting between our duty to protect the interests of consumers (the consumer objective).[xvi] In our final determinations, we made clear that we considered that the benefits test is necessary in order to strike an appropriate balance between our duty to make sure efficient companies are financeable – which is further secured through our separate financeability test – and our other statutory duties in particular the consumer objective. Based on these two statutory duties we considered that we would be prepared to provide an uplift to cover higher financing costs for small water companies but only if a customer benefit could be demonstrated. We also noted that all companies, including Bristol Water, were financeable (on a notional basis) in the absence of an uplift. We therefore considered that our methodology represented a reasonable balance between our duties.[xvii]

Concerning the **magnitude of the benefits**, the key issues are set out in table A1.4:

Table A1.4: Key issues on the benefits test

Issue	Bristol view[xviii]	Ofwat view[xix]
Benefits (wholesale cost assessment)	Under a correct modelling approach, Bristol Water would show a net benefit to customers.	We did not accept Bristol Water's submissions on the approach to wholesale cost modelling. Our modelling, taking account of historical and forecast future efficiency showed that Bristol Water does not have benefits as a wholesale cost benchmark.
Benefits (wholesale cost assessment)	Bristol has lower bills than surrounding companies despite being deemed less efficient. This suggests a merger would be detrimental to customers.	There is no reason to believe that a merger would necessarily result in bill averaging. Bristol customers could continue to enjoy lower bills following a merger.
Benefits (other)	Ofwat's approach focuses solely on the structure of the market, and does not take into account customer benefits specific to each individual company and its individual circumstances.	Bristol Water provided no evidence showing that our decision to allow an uplift or not has an impact on customers other than through its impact on the likelihood of a merger.
Benefits (other)	As a local water-only company, Bristol Water has always engaged closely with the communities it serves.	Bristol Water provided no evidence showing that larger companies do not carry out such engagement.

A1.2.3 Other areas of the wholesale price control – Outcomes

1. Final determination

We made a number of interventions in relation to Bristol Water's outcomes.

- We adjusted Bristol Water's performance commitments (PCs) for unplanned customer minutes lost (supply interruptions), contacts from customers about water quality and mean zonal compliance. We made these adjustments following our comparative assessment of Bristol Water's proposed outcomes relative to the upper quartile performance achieved by all companies.
- We made some minor changes to the penalty rates proposed by Bristol Water for one of its PCs, as well as the range over which penalties applied for another of its PCs. These changes were in relation to company specific proposals and so we did not make these changes by comparing across companies.
- After the DD, following a review of all companies' 'asset health' PCs, we advised Bristol Water that it may want to consider reducing the scale of the penalties for its asset reliability (infrastructure and non-infrastructure) PCs. We accepted the company's proposal to reduce the scope of its two asset reliability performance commitments by removing components which were incentivised separately elsewhere; however we did not accept the full proposed reduction in penalty rates as we did not consider that their proposals provided sufficient protection for customers. Bristol Water's original proposal in its business plan contained a maximum penalty of £38.9million. Its revised proposal suggested a P10 penalty (a scenario where there is a 10% probability of an outturn occurring below the identified level) of £6.2m, and a maximum penalty of £7.3million. However, we intervened to set the P10 penalty at £9.7million and the maximum penalty at £20.9million (54% of its original proposal). We intervened to protect customers, via penalties, if Bristol Water's performance on its two asset reliability measures fell to Marginal or Deteriorating. If Bristol Water maintains its asset reliability status at Stable for all five years then it will not incur a penalty. This is consistent with what we did for other companies.

2. Issues for consideration

Unplanned customer minutes lost

Our intervention in relation to Bristol Water's performance commitment - A1: Unplanned customer minutes lost was based on our comparative assessment of all companies against the industry's historic upper quartile performance in 2011-12 to 2013-14. To calculate the upper quartile measure we used the Ofwat Key Performance Indicator (KPI) for supply interruptions. The KPI relates to planned and unplanned interruptions greater than 3 hours.

In its Business Plan, Bristol Water proposed a supply interruptions measure different from this existing standard KPI (as did three other companies). Bristol Water's proposed measure differed from our KPI in two main ways, explained in table A1.5.

Table A1.5: Differences between the Ofwat KPI and Bristol Water measure

Ofwat KPI	Bristol Water measure
Supply interruptions greater than 3 hours	Supply interruptions of all durations
Planned and unplanned supply interruptions	Unplanned supply interruptions only

At draft determination the upper quartile performance benchmark for all supply interruptions KPI was 10 minutes. In assessing Bristol Water's measure we used information Bristol Water provided, which stated that interruptions of greater than 3 hours are typically 60% of all interruptions of all durations. We therefore assessed that the upper quartile measure for Bristol Water should be 10 minutes / 0.6 = 16.67 minutes. Bristol Water's proposed performance commitment was 13.4 minutes in 2015-16 reducing to 12.2 minutes in 2019-20. We did not intervene at draft determination because Bristol Water's performance commitment was better than our assessment of the industry upper quartile adjusted to Bristol Water's specific measure.

However, we had not taken into account that Bristol Water's measure related to unplanned interruptions only. We should have adjusted our assessment of upper quartile performance at draft determination to take account of this.

We wrote to Bristol Water to explain the adjustment we should have made at draft determination on 3 November 2014. We explained that we would use the same approach we adopted for the other three companies with non-KPI measures to take this into account in our final determinations. This approach was to adjust the upper

quartile measure by the ratio of the 2013-14 outturn on the company's measure for unplanned interruptions to the 2013-14 KPI data for the company for planned and unplanned interruptions.

Having taken into account Bristol Water's representations on this issue, our final determination intervention for Bristol Water's outcomes target in this area is set out in table A1.6 below. This was the same intervention we proposed in our 3 November query to Bristol Water except we had reassessed the underlying historic industry upper quartile performance level on the standard KPI measure to be 12 minutes rather than 10 minutes. We reassessed the upper quartile level after considering representations on the draft determinations, in particular, that we should use the same method for calculating the upper quartile across all five comparative assessments. Our final determination required Bristol Water to achieve a target of 7.2 minutes in 2017-18 to 2019-20 whereas in the 3 November 2014 query to Bristol Water we proposed 5.96 minutes.

Table A1.6: Conversion of the industry upper quartile level for supply interruptions into a company-specific one for Bristol Water

Measure		Unit
2013-14 KPI data for Bristol Water	23.46	minutes
2013-14 outturn on Bristol Water measure	14.0	minutes
Ratio	0.59676044	
UQ on normalised data	12	minutes
UQ on Bristol Water measure	7.16	minutes

Outcomes and costs

Because of the relationship between outcomes and costs, it is important that they are not considered in isolation. There is often a relationship between business plan proposals for outcome delivery incentive (ODI) rates and the incremental totex allocated to the PC in the plans. Incremental totex is for enhancements to improve current (2014-15) performance levels and was used in the standard formula for deriving relevant ODI penalties. Eleven of Bristol Water's financial penalties (and none of its rewards) are based on incremental totex. An example of this relationship between outcomes and costs is that at draft determinations we reduced the penalties for Bristol Water's performance commitment D2 "Construction of Cheddar Treatment Works algae removal" to reflect our downward adjustment to the company's allowed costs.

A1.2.4 Other areas of the wholesale price control – reconciling 2010-15 performance

Our final determination for Bristol Water included a £4.1 million shortfall for performance in relation to 'serviceability' of the company's assets. At PR09, companies were funded to deliver stable serviceability by 2012 and to maintain this thereafter. We set out our expectations that each company monitors, manages and maintains its asset systems so that each of the serviceability indicators set out to the company at that time remained stable, that is, within a defined range of control limits, oscillating around a central reference level.

We applied a shortfall for deteriorating performance in relation to interruptions to supply exceeding 12 hours indicator. The company has had three breaches of the upper control limit in 2011-12, 2013-14 and 2014-15 and was very close to the upper control limit in 2012-13. We disagreed with the company that the events leading to the supply interruptions for some incidents were beyond its control.

Nonetheless, the shortfall adjustment in the final determination in relation to interruptions exceeding 12 hours was reduced from £6.3 million in the draft determination. This reflected revised limits on the contribution that an individual indicator could make to the shortfall incentive. We also applied a volatility factor to reduce the scale of our shortfalls where the underlying metrics were particularly volatile – including for interruptions greater than 12 hours. The intention behind these adjustments was to ensure that the incentives for serviceability were proportionate and reasonable.

At the draft determination we had also proposed a shortfall of £5.6 million for performance in relation to iron mean non-zonal compliance, but we accepted the company's evidence that performance was affected due to re-zoning and not as a result of underlying asset performance. Consequently this was not applied in the final determination.

When we set the final determination our assessment on 2010-15 performance was based on the forecast data for 2014-15 provided by the company. The final reconciliation of some of the tools may be different in light of actual reported performance for 2014-15.

A1.3 Household retail

A1.3.1 Our overall assessment of Bristol Water's household retail price control proposals

Our detailed final determination for the household retail price control for Bristol water is set out in 'Final price control determination notice: company-specific appendix – Bristol Water' – section A3.

1. Final determination

1 a Outcomes, performance commitments and incentives

Bristol Water has committed to delivering outcomes which reflect its customers' views. Our assessment of the specific PCs proposed by each company for household retail focused on a company-specific assessment to ensure that the performance proposed by each company was challenging, appropriately incentivised and supported by customer engagement.

We did not intervene in any of the PCs and incentives types proposed by Bristol Water. We considered that the company put forward a set of effective incentives that would allow for customers protection against under-delivery.

1 b Allocation of costs

We assessed Bristol Water's cost allocation methodology across three different areas: i) potential material misallocations, ii) level of assurance provided, iii) reconciliation to regulatory accounts and the December business plan.

Overall we were satisfied with Bristol Water's cost allocation methodology and therefore we accepted Bristol Water proposals across all the three different areas.

1 c Cost – Adjustments and new costs

In its revised business plan, submitted in June 2014, Bristol Water sought adjustments to the average cost to serve (ACTS) for pension deficit repair costs and for input price pressure.

Pension deficit repair costs

In the final determination we included an adjustment for all companies to reflect the pension deficit recovery costs that our modelling shows is appropriate for household

retail as set out in IN 13/17 'Treatment of companies' pension deficit repair costs at the 2014 price review', which we issued in advance of the December Business Plans.

Input price pressure

In its draft determination, we did not accept Bristol Water's proposal for an ACTS adjustment for input price pressure. The company had neither provided sufficient evidence to demonstrate that input price pressure is outside of efficient management control, nor provided sufficient efficiency benchmarking evidence to demonstrate that the company is affected in a materially different way to other companies.

Bristol Water provided further evidence to support its input price pressure claim as part of its representation on the draft determination. We considered that, based on this further evidence, the company had demonstrated that input price pressure is beyond efficient management control and that the company is affected in a materially different way to other companies. We therefore included an adjustment of £4.9 million for this pressure in the final determination.

New costs

Bristol Water did not propose material household retail new costs. The value of the proposed modification for new costs was below the materiality threshold at £0.37 per customer. Although Bristol Water had not specified any specific claims, their forecast costs were rising on a per customer basis and therefore a modification was made. This modification was applied to the cost per customer used for calculating the unmeasured ACTS.

1 d Calculating the allowed revenues

As set out in our final determination and explained in appendix 1, total allowed household retail revenues are calculated taking account of our assessment of the cost to serve per customer (after the impact of our efficiency challenge), the projected customer numbers in the company's revised business plan and the household retail net margin. The company proposed net margins of 1%. This was in line with our risk and reward guidance and our further consideration of margins following representations on the draft determination. We have therefore accepted the company's proposals.

Table A1.7 below sets out the components of the company's allowed household retail revenue.

Table A1.7: Components of the allowed household retail revenue (nominal prices)

	2013-14	2015-16	2016-17	2017-18	2018-19	2019-20
Company cost to serve (£/customer)						
Unmetered single service customers	16.5					
Metered water only customers	24.1					
Industry ACTS (£/customer)						
Unmetered single service customers	21.47					
Metered water only customers	27.26					
Allowed cost to serve[1] (£/customer)						
Unmetered single service customers		16.4	17.0	17.7	18.4	19.2
Metered water only customers		23.5	23.7	23.9	24.2	25.0
Total allowed (£m)						
Cost to serve (excluding net margin)		9.6	10.1	10.5	11.0	11.6
Forecast household wholesale charge (including forecast RPI[2])[3]		84.8	82.1	85.6	88.8	92.1
Household retail revenue (including an allowance for the net margin)[4]		10.4	10.9	11.4	11.9	12.5

1e Uncertainty mechanisms

Bristol Water did not propose any household retail uncertainty mechanisms beyond those that already formed part of the industry regulatory framework for 2015-20.

Table A1.8: Household retail adjustments (nominal prices)

£ million	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Adjustments proposed in Bristol Water's business plan						
Input price pressure	0.617	0.873	1.148	1.444	1.758	5.839
Pension deficit repair costs	0.071	0.071	0.070	0.070	0.070	0.352
Adjustments included in business plan	**0.687**	**0.943**	**1.219**	**1.514**	**1.828**	**6.192**
Adjustments included in draft determination						
Input price pressure	0.000	0.000	0.000	0.000	0.000	0.000
Pension deficit repair costs	0.070	0.070	0.070	0.070	0.070	0.349
Adjustments included in draft determination	**0.070**	**0.070**	**0.070**	**0.070**	**0.070**	**0.349**
	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Adjustments proposed in Bristol Water's business plan						
Input Price Pressure	0.577	0.769	0.975	1.196	1.431	4.948
Pension deficit repair costs	0.071	0.071	0.070	0.070	0.070	0.352
Adjustments included in business plan	**0.647**	**0.839**	**1.046**	**1.267**	**1.501**	**5.301**
	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Adjustments included in final determination						
Input Price Pressure	0.577	0.769	0.975	1.196	1.431	4.948
Pension deficit repair costs	0.070	0.070	0.070	0.070	0.070	0.349
Adjustments included in final determination	**0.646**	**0.839**	**1.045**	**1.266**	**1.501**	**5.297**

A1.4 Non Household retail

A1.4.1 Our overall assessment of Bristol Water's non-household retail price control proposals

Our detailed final determination for the non-household retail price control for Bristol water is set out in 'Final price control determination notice: company-specific appendix – Bristol Water' – section A4.

In making the final determination we assessed all of the information submitted by the company and other stakeholders. As a result of our assessment we considered that we needed to intervene in the non-household retail control in relation to:

- the company's claim for an adjustment to the ACTS for input price pressure. We did not accept the company's claim for an adjustment to its non-household retail control.
- We did not accept the company's claim for non-household retail new costs associated with market opening.

1. Final determination

1 a Net Margin

Bristol Water had proposed net margins of 2.5% which was in line with our risk and reward guidance. We therefore accepted the company's proposals.

1 b Cost – adjustments and new costs

Pensions

As with all other companies we adjusted the company's pension deficit repair costs to align with our guidance and approach. For Bristol Water this had reduced from £0.062 million to £0.056 million.

Input price pressure

When setting our proposed non-household retail margin at 2.5% per year we had taken account of the input cost risks faced by the non-household retail business. All companies including Bristol Water had accepted our guidance. In its revised business plan Bristol Water provided some evidence of the scale of the potential input price pressure it faced. However, it did not justify why the net margin was insufficient to remunerate the company for any expected input cost increases and

associated input cost risks. We therefore rejected its claim. To reflect this we adjusted its proposed allowed cost down by £0.778 million over the control period.

New costs

In the draft determination we also reduced the company's proposed material new cost increases down to the materiality. This was because the company did not provide sufficient evidence to justify the need, costs and benefits of the proposed material increases in costs. The company did not submit representations on this issue, and did not provide additional supporting evidence. We therefore maintained our draft determination position on new costs in the final determination.

In total, our interventions reduced the company's proposed costs from £7.539 million over the control period, to £4.694 million.

1 c Form of control

In response to our draft determination question, Bristol Water proposed a two-year and a three-year price control. As part of this, the company also requested the option to propose new costs as part of the next price control review that would allow them to better estimate their costs in the intervening period.

In our final determination, we disagreed and saw no benefits to customers of companies proposing new costs when we have already determined appropriate costs for the whole period 2015-20 based on a full review of companies' overall business plans for this period. We had already made specific allowances for market opening costs through the wholesale control, and had not applied an efficiency challenge to companies' non household retail controls (for companies operating wholly or mainly in England).

As no company was able to sufficiently demonstrate that material new costs will be incurred, we considered that companies should be able to manage any new costs within the overall revenue allowance and therefore proposed to confine the review for the next non-household price control to issues around improved cost allocation and the associated revenue controls.

A1.5 Appointee financeability, affordability and assurance

A1.5.1 Our overall assessment of Bristol Water's financeability, affordability and assurance proposals

Our detailed final determination for Bristol Water is set out in 'Final price control determination notice: company-specific appendix – Bristol Water' Section A5 covers issues relating to the entire appointee. Our approach is consistent with our final methodology statement and is explained in the relevant draft and final determination policy chapters.

In making the final determination we assessed all of the information submitted by the company and other stakeholders. As a result of our assessment we considered that we needed to intervene in relation to the company's proposed bill profile. We intervened to include a one year glide path in annual revenue levels in order to provide time for Bristol Water to adjust to efficient cost levels. We set a flat profile for the remainder of the period (from 2016-17) consistent with Bristol Water's evidence on customer bill preferences.

1 Final determination

The company provided us with evidence that it considered its business plan was financeable on a notional basis. Our calculation of the financial ratios based on its plan was broadly in line with the company calculations. The company's gearing was materially lower than ours as it assumed a low dividend yield to prevent rising gearing. Our calculations adhered to our notional dividend assumptions and as a result there was a slight deterioration of the financial ratios, although they were still reasonable by the end of the period. At final determination our calculations showed that the financial ratios remained healthy and remained broadly comparable to the company plan, we concluded that the company was financeable.

Table A1.9: Financial ratios

Financial ratios for notional company	Financial ratio calculations based on the company business plan (average 2015-20)		Financial ratio calculations based on our final determinations (average 2015-20)
	Company calculation	Ofwat calculation	Final determination
Cash interest cover (ICR)	3.57	3.76	3.63

Adjusted cash interest cover ratio (ACICR)	1.96	2.07	1.69
Funds from operations(FFO)/debt	14.02%	14.36%	12.07%
Retained cash flow/debt	10.99%	11.12%	9.41%
Gearing	61.30%	64.65%	64.89%
Dividend cover (profit after tax/dividends paid)	2.12	2.47	1.85
Regulatory equity/regulated earnings for the regulated company	15.07	13.67	16.49
RCV/EBITDA	7.81	7.59	8.96

2 Issues for consideration

Two key issues in this area are the basis for the financeability assessment and the use of Pay-as-you-go (PAYG) rate levers.

The company represented that financeability should take account of realistic allowance of wholesale expenditure and speed at which any reduction in expenditure can be realised, small company premium on cost of capital, the actual capital structure of the company and the specific calculation of credit rating metrics used by credit rating agencies. As set out in appendix 2 and consistent with PR09 and our PR14 methodology, we consider that financeability should be assessed on a notional basis. This ensures that company management and shareholders, and not customers, bear the risk of the businesses financial structure. This includes company decisions to change their gearing and the associated timing of debt raising by companies.

We used a common basis for our calculation of financial ratios for all the companies, consistent with our final methodology statement. Each of the rating agencies has their own approach to calculating financial ratios, which differ between agencies and change over time and relate to the actual rather than notional company. We consider our financial ratio calculations provided an appropriate basis for assessing the financeability of an efficient company for the purpose of setting price controls.

The company did not propose any change to its PAYG rates in its initial representations on the draft determination. Following our assessment of Bristol

Water's wholesale costs for the final determination, we invited the company to provide further representations on how PAYG and RCV-runoff should be applied. Bristol Water subsequently proposed an increase in PAYG to provide a three-year glide path to our view of an efficient level of costs. In particular, Bristol Water stated that the minimum bill level required to maintain a stable financial position and operate a skeleton business for one year was £178 per customer.

While we remain of the view that the financeability assessment should be based on an efficient company, we consider that given the scale of the cost adjustment required by Bristol to reach our view of the level of efficient costs, a transition path to the level of efficient costs was appropriate. Excluding the avoidable enhancement costs associated with Cheddar Two (where we do not consider starting expenditure in 2015-20 would be in customers' interests) we calculate that Bristol Water's view of the level of totex would require annual revenue of £114 million, while based on Ofwat's view of efficient totex would require annual revenue of £100 million. Recognising that the company will need to substantially reduce its costs from 2014/15, we allowed a one year glide path with revenue of £107million in 2015/16.

This is financially neutral to shareholders and customers in the longer term. We considered the company's three year glide path proposal could not be justified on the grounds of financeability, as it was based on actual rather than notional financial structure and the company provided insufficient evidence that such a length of time would be required to reduce costs to efficient levels and that it was reasonable for customers to bear the higher costs. The PAYG rates proposed at each stage of the process are set out in table A1.10 below.

Table A1.10: Proposed PAYG rates for Bristol Water

Document	PAYG rate	RCV run-off	Commentary
Company December plan	52.1%	6.0%	These are the original company submission rates. In our risk based review of the company business plan, we raised concerns about the evidence of customer support for Bristol Water's proposal to reduce PAYG rates to lower bills in 2015-20 at the expense of higher bills beyond 2020.
Company June plan	53.7%	6.0%	Company increased PAYG rate to offset a reduction in the company's proposed WACC and reversed the company's lowering of PAYG to improve affordability between 2015-20 as set out in its December plan.

Draft determination	53.7%	6.0%	At the draft determination the company's proposed PAYG and RCV run off rates were used.
Final determination	55.3%	6.0%	PAYG rate increased in 2015/16 to allow a glide path for the speed of reduction in costs and to reflect the balance of operating expenditure (opex) and capital expenditure (capex) in the allowed totex. The allocation of costs between opex and capex was revised to reflect the impact of specific disallowed costs. The split between opex and capex is necessary to calculate financeability ratios.

Appendix 2 Overview of the price control framework

A2.1 Background

This appendix summarises the price control framework applied to Bristol Water's and other water companies' final determinations. Full details of our approach are set out in:

- the final methodology statement - published in July 2013[xx].
- The policy chapters published alongside each company's final determination[xxi] and where relevant our draft determinations[xxii].

The final determination included separate binding controls (three for Bristol Water as it only supplies water to customers), the type and nature of which is summarised in figure A2.1 below. These controls help to reveal better information about the services companies provide and create stronger incentives to improve service and value.

Figure A2.1: Overview of price controls

Wholesale controls		Retail controls	
Water	Wastewater	Household	Non-household
Total revenue controls Set for five years Include an automatic adjustment for RPI Include connection charges, ongoing wholesale charges but not bulk supplies to other appointees		Total revenue control Annual revenue adjustment factors to reflect differences between actual and expected customer numbers and levels of metering Set for five years No automatic adjustment for RPI	Average revenue controls per customer type Companies must offer default tariffs which comply with control Not all customers have to remain on these Set for two years No automatic adjustment for RPI

Taken together with the associated PCs these form the final determination package to be delivered for customers. The controls include a number of interacting elements. Companies submitted business plans covering all price controls, demonstrating that in the round they were deliverable, financeable and affordable. Our assessment of

each company's plan also looked at the package of proposals in the round. Some aspects of our framework interact with, or apply across, more than one control (such as the outcomes based approach) or at the appointed business level (such as financeability).

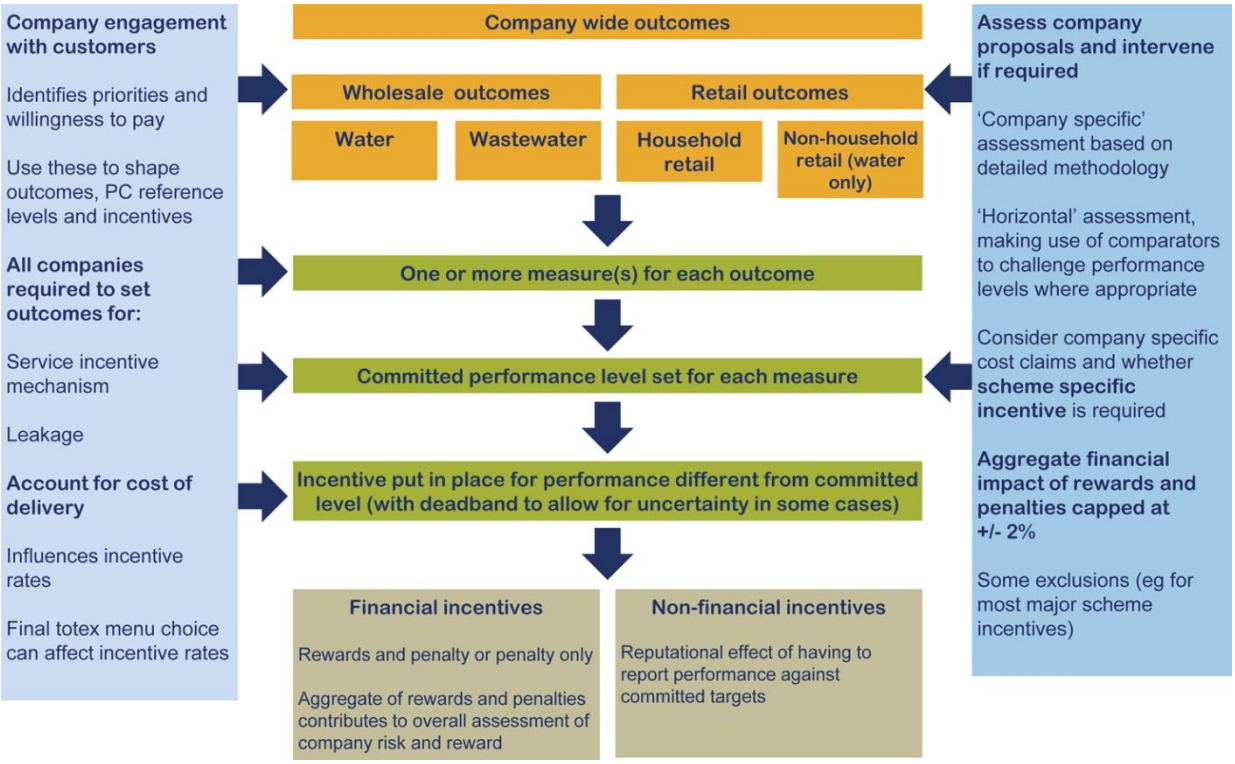
The remainder of this appendix, after setting out the overall approach to outcomes, provides a summary of each control. We consider financeability and affordability of company plans as separate sections at appointee level.

We provide alongside this document a summary of the feeder models which we used in each control and which feed into the financial model in 'Summary of feeder models'.

A2.2 Outcomes

Historically, regulatory targets for delivery were set with reference to inputs (such as the construction of a length of pipe) or outputs (such as delivery of a particular engineering scheme). For the first time in PR14, companies had to focus on delivering what matters to customers, such as the reliable delivery of water that is safe to drink, and what matters to society more widely, such as environmental outcomes. The broad approach to the outcomes based approach is summarised in figure A2.2 below.

Figure A2.2: Overview of outcomes approach



We designed this innovative outcomes approach to deliver a number of benefits to customers and wider society.

- **Focus on customer priorities**: companies developed outcomes through customer engagement, including detailed dialogue with the CCGs. This ensured strong focus on the delivery of customer priorities across current customers, future customers and the environment. We explain our approach to customer engagement in annex 1 to this appendix.

- **Company ownership of business plans:** companies had to develop and take ownership of, and accountability for their own business plans, rather than responding to regulatory prescriptions about what they should deliver.

- **Outcome delivery incentives (ODIs):** the ODIs associated with the outcomes create strong incentives for companies to innovate and become more efficient, protecting customers against instances of under-delivery and where merited, rewarding companies for outperformance in areas where customers are willing to pay more to receive more of what they want. The use of ODIs for customer protection is particularly important in relation to securing the delivery of big projects on which customer outcomes depend.

- **Greater accountability**: we required companies to publish independently assured and challenged information about their performance against outcomes each year. This created greater accountability in delivering for customers and the environment in the longer term.

A2.2.1 Key elements of outcomes – our approach to interventions

We intervened in three broad ways:

- **Making use of comparators:** to protect customers' interests, where we could and it was appropriate, we considered how each company's proposals compared to historic industry performance levels. In light of this assessment, we intervened to ensure that companies' performance commitments reflected sector upper quartile performance from 2017-18 onwards. We also intervened to ensure companies faced penalties for performance worse than upper quartile from 2017-18 onwards and that companies were only able to access rewards where their performance exceeded upper quartile levels. This assessment was first published in the draft determinations on 29 August, when we had clarity of proposals across the industry.

- **Company-specific PCs and ODIs**: where it was not possible or appropriate to make comparisons, we performed company-specific analysis on individual company proposals to check that they:
  - complied with the methodology;
  - represented value for money; and
  - protected customers against under-delivery.

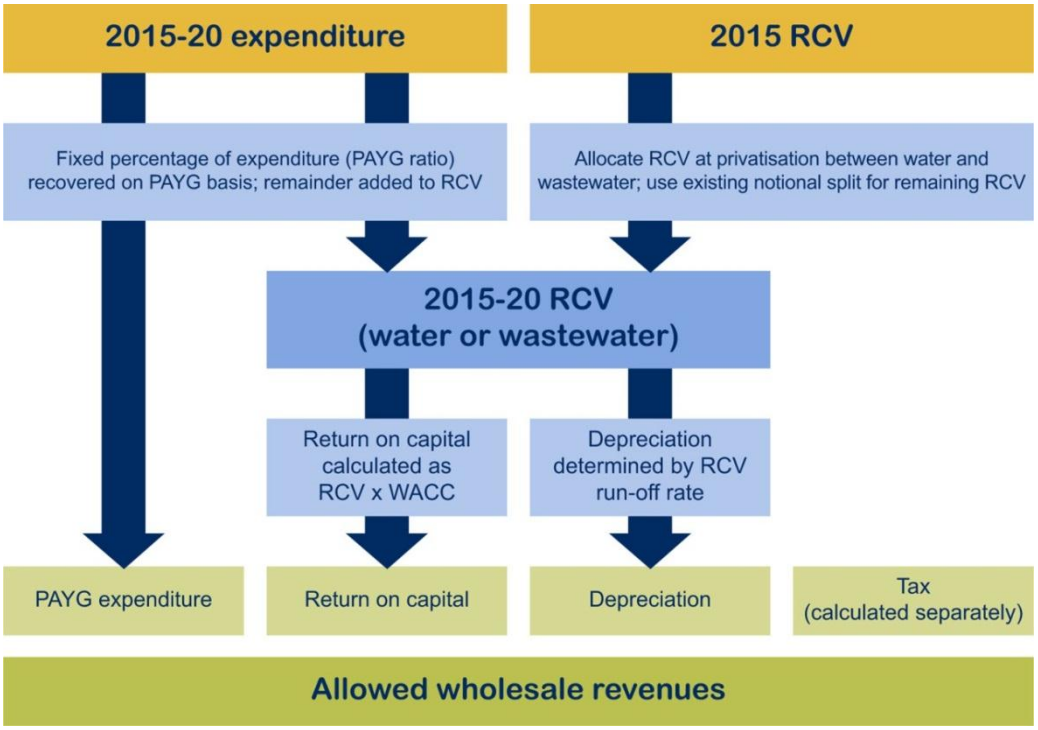
- **Aggregate cap and collar**: recognising that ODIs are a new and innovative feature of this price control, we introduced an aggregate cap and collar to provide an element of protection to both customers and companies but which retained the strong incentives that the outcomes approach brings.

A2.3 Wholesale water and wastewater price controls

Overview of wholesale controls

The broad approach for setting wholesale revenues is summarised in figure A2.3 below. The detailed approach was confirmed in the final methodology statement and explained in our draft and final determinations. Consistent with the July 2013 licence modifications, the calculated allowed revenues will be recovered from wholesale charges or the wholesale charge element of end-user charges and are controlled by a formula that limits changes in charges to RPI plus fixed percentage K factors.

Figure A2.3: Approach to setting allowed wholesale revenues



The key parameters and estimates that were used to calculate wholesale price control revenue for the period 2015-20 are summarised below.

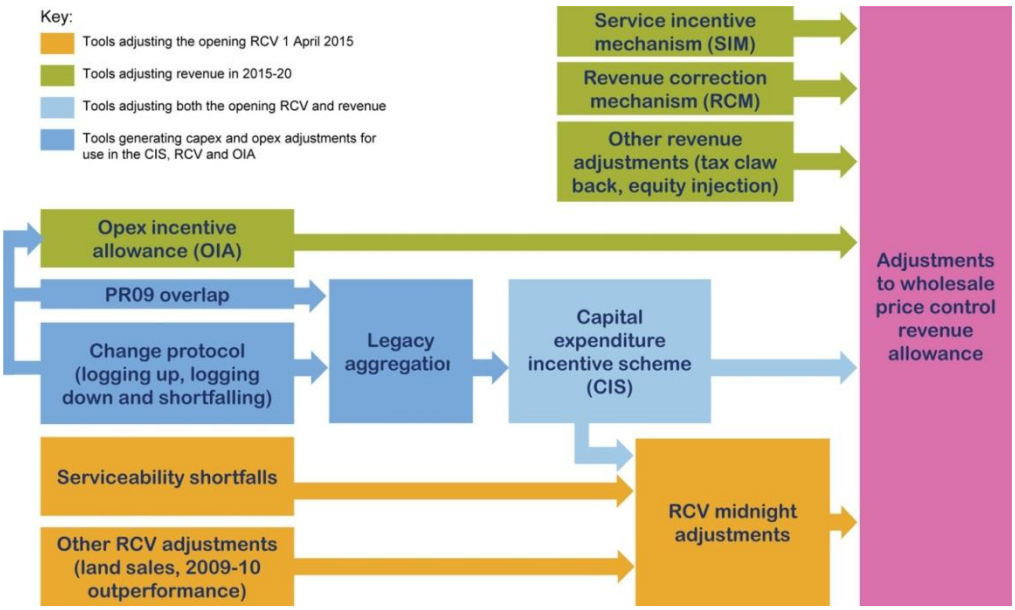
- **2015-20 expenditure** – our assessment of the efficient level of totex or capital and operating expenditures, for wholesale water and wastewater services for each company over 2015-20 net of grants and contributions.
- **PAYG ('pay as you go') rate** – the allocation of totex to either PAYG (all of which will be recovered from revenue over 2015-20) or the RCV (which is recovered over a longer time period specified for each wholesale service).

- **RCV ('regulatory capital value')** – calculated as the RCV at the start of the period plus totex that is not funded on a PAYG basis minus RCV run-off and depreciation on totex additions (or regulatory depreciation). All of the opening 2015 RCV was allocated to the wholesale price controls.
- **Return on the RCV** – the wholesale WACC applied to the average RCV in each year of the period from 2015-20. This is discussed in section A2.3.1 below.
- **Corporation tax allowance** – estimated from forecasts of accounting profits.
- **Income from other sources** – other income relating to the activities of the regulated business taken into account to reduce the revenue required from the price controls (and so customer bills for services covered by the price controls).

Wholesale allowed revenues are also subject to reconciling adjustments for performance arising from the period 2010-15. At PR09 we introduced a number of new incentive mechanisms and confirmed which of the pre-existing incentives we would continue to use for the 2010-15 period. The final methodology statement asked companies to include within their business plans a reconciliation of their performance against these various PR09 mechanisms and to set out any proposed adjustments to 2015-20 price controls.

Where the companies either did not put forward an adjustment; or we considered that a different adjustment should be made, we intervened in companies' business plans to protect customers' interests. The broad approach for reflecting these adjustments in allowed wholesale revenues and the RCV is summarised in figure A2.4 below

Figure A2.4: Overview of reconciling 2010-15 performance



A2.3.1 Key elements of the wholesale controls - Totex

We have used for the first time a total expenditure (totex) approach to assess allowed expenditure in order to incentivise efficiency, encourage companies to develop innovative and low-cost solutions and to address concerns about a bias towards capital over operational solutions and expenditure. We have extended cost sharing incentives from capital expenditure to totex so that companies make menu choices in relation to totex that determine their totex cost sharing rate and provide wider incentives for accurate and realistic forecasting.

We have derived our own assessment of upper quartile efficient water and wastewater expenditures on the basis of comparative efficiency, using benchmarking models where practicable. We made adjustments to modelled estimates of expenditures only where companies made a robust case for special cost factors, such as NEP5 (National Environment Programme 5), not captured in the models. This compares to our approach at previous reviews where we based our assessment of costs on company business plans and then applied an efficiency and scope challenge to these plans.

We have developed a range of benchmarking models which reflected broader feedback received about the advantages of totex modelling and previous comments by the Competition Commission[xxiii] that we should make greater use of panel data modelling. The models include separate models for base cost and enhancement costs, and models that explain total expenditures (that is, both base plus enhancement totex). The models are either panel data econometric models or unit cost enhancement models. We set out the key documents and modelling supporting the totex approach in annex 2 of this Appendix.

Aligned to this totex approach to cost assessment we have introduced a totex approach to cost recovery similar to that of Ofgem. How much totex recovered in allowed revenues in each year is determined by the PAYG ratio. The proportion of totex expenditure which is not treated as PAYG is added to the RCV which enters the wholesale revenue requirement via regulatory depreciation (RCV run off and depreciation on totex additions) and the return on RCV.

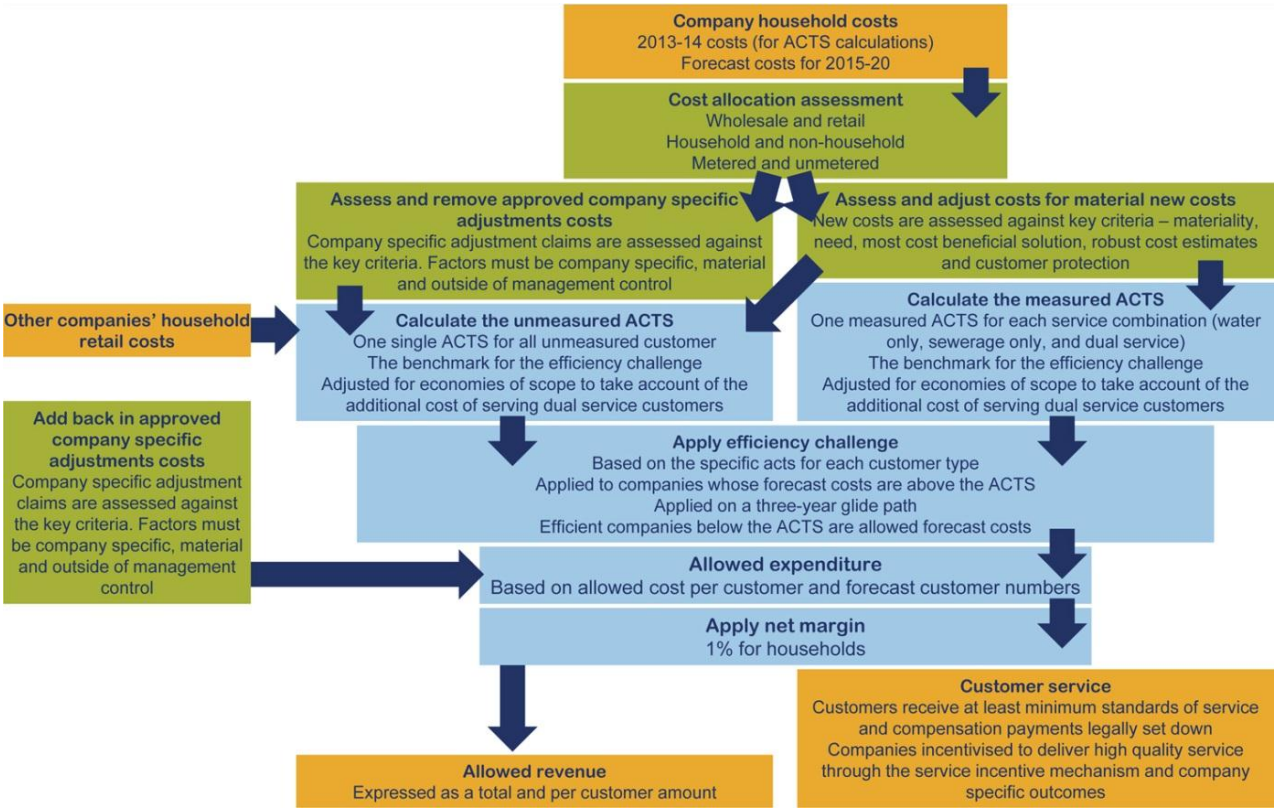
Companies have the flexibility to propose the levels of these PAYG ratios (water and wastewater), RCV run off rates and totex asset lives, (subject to our risk based scrutiny) in the light of their own circumstances including their efficient financing needs. This encourages the company to recover costs from current and future customers in a way which balances affordability and financeability.

A2.4 Retail household price control

Overview of retail household control

The broad approach to the retail household control is set out in figure A2.5 below. The detailed approach was confirmed in the final methodology statement and explained in our draft and final determinations. We set a separate binding household retail control for each company for household customers. This allowed us to set more targeted and effective incentives for the household retail business within the integrated appointees. The household retail price control is a total revenue control with annual revenue adjustment factors to reflect differences between actual and forecast customer numbers and meter penetration.

Figure A2.5: Overview of retail household controls



In setting allowed household retail revenue we:

- Assessed whether companies had followed our guidance[xxiv] and allocated costs between wholesale and retail, household and non-household and metered and unmetered customers appropriately.
- Used comparative regulation to determine efficient cost levels adjusting a company's proposals with reference to an industry ACTS per customer.
- Allowed companies to claim for potential adjustments to the ACTS. These had to be for material, unavoidable cost differences due to factors beyond efficient management control. Examples of claims submitted included bill size, local deprivation (which may affect their levels of bad debt) and input price pressures (driving increases in expected efficient retail costs).
- Allowed companies to claim for new costs where they believed that the sector ACTS for 2013-14 was not representative of its particular costs for 2015 onwards.
- Assumed customers will receive the minimum standards of service and compensation payments legally set down by the Guaranteed Standards Scheme (GSS)[xxv] .
- Incentivised companies to deliver high-quality service for customers through a mandated service incentive mechanism (SIM)[xxvi]. Companies could also propose additional outcomes covering retail activities.

A2.4.1 Key elements of the retail household control

Average Cost to Serve

Our approach to calculating allowed retail household revenue sought to protect customers by:

- challenging relatively inefficient companies to reduce their costs; and
- not allowing companies to pass onto customers increases in costs that did not seem necessary or were poorly justified by companies

A key tool in achieving this was establishing the ACTS for the sector and then challenging companies to achieve a cost to serve (CTS) at or below the ACTS.

Our approach to calculating the sector wide ACTS took into account the differences between companies that provided water and sewerage services (WaSCs) and those that provided water only services (WoCs). We used an unweighted average because:

- it reflects the different management approach to retailing of each company, ensuring that the efficiency challenge focusses on incentivising good management practice.
- it avoids a small number of large companies (that may or may not be the most efficient retailers) significantly influencing average.

For companies where their CTS was projected to be above the ACTS, we allowed a three-year glide-path for the company's costs to reach the ACTS within the next control period. For companies whose costs were projected to be below the ACTS, their allowed retail revenue was based upon their own forecast CTS. Having calculated the allowed retail CTS, we then calculated the allowed net margin per customer. This was set based on the allowed retail costs per customer and the allowed wholesale revenue per customer (which is a cost incurred in providing retail services, recovered in household bills).

The 2014 price review was the first time we set separate price controls for retail and the first time we used an ACTS approach. We made clear in our final methodology statement that this approach was part of an evolutionary approach to the separate regulation of household retail services, which is intended to enable us to move to an efficient cost to serve at future price controls.

Indexation

We did not include an automatic index link to retail price index (RPI) for the household retail controls. When developing our methodology we explored and invited stakeholders to provide evidence that there are material household retail input price pressures that are beyond companies' reasonable control. The evidence was not sufficiently compelling to convince us that an automatic link to RPI (to allocate inflation risk away from companies) was necessary. However, we did invite companies to provide further evidence in their business plans to support a bespoke adjustment to allowed revenues for expected input price pressure.

We found the evidence submitted by four companies, including Bristol Water, to be sufficient and convincing. For all other companies, the final determination allowed household retail revenues were set using the costs incurred in 2013-14 using 2013-14 actual prices. This innovation, which requires companies to largely fund future input price pressure from further efficiencies, will reduce customers' bills over 2015-20 by an estimated £561 million across all companies relative to the traditional approach of allowing pass-through of inflation risks to customers via RPI indexation.

Adjustments to the ACTS

Our final methodology statement confirmed that companies could seek, in their business plans, additional adjustments to their CTS if they could demonstrate with sufficient and convincing evidence that the costs:

- were material to the company;
- were driven by factors beyond efficient management control; and
- impacted the company in a materially different way to other companies.

We allowed companies to propose adjustments to the ACTS so that companies with justifiable reasons for having materially different costs from the average were not unduly penalised.

We considered a number of proposed adjustments to the ACTS, related to levels of bad debt (such as bill size, levels of local deprivation or impacts of the Thames Tideway Tunnel) and input price pressure (as discussed above, automatic RPI indexation is not applied to the household retail control).

Finally, we included in the final determinations an adjustment for all companies to reflect the pension deficit recovery costs that we considered appropriate for household retail[xxvii] (in line with the proposed allowances we set for companies before they submitted their business plans).

New costs

We also allowed companies to make a case in their business plans for modifying their CTS to account for forecast 'new costs' if they considered that 2013-14 costs were not representative of the costs they would face from 2015.

To calculate new costs we accounted for growth in customer numbers and increased levels of metering among customers so that we did not assess cost increases driven solely by growth in customer numbers or the roll out of metering. If new costs were found to be material, we assessed companies' claims using a bottom up approach. Where costs were immaterial, or material but not robustly justified, then we did not change forecast costs used in setting allowed revenues. We also included a modification to 2013-14 costs so that the ACTS reflected these costs if relevant. However, if new costs were material[xxviii] and not sufficiently justified, we reduced the company's base retail opex forecast costs for 2015-20 to disallow new costs above the materiality threshold.

A2.5 Retail non-household price control

Overview of retail non-household control

We set a separate binding non-household retail control for each company for non-household customers. This has allowed us to construct price controls that will provide backstop protection for customers who will be able to choose their supplier, whilst facilitating competition. We have also provided additional protection for customers of companies operating wholly or mainly in Wales who will not have access to choice.

The non-household retail price control is an average revenue control per customer for different customer types. We:

- Assessed whether each company had allocated costs between wholesale and retail, household and non-household and metered and unmetered customers appropriately, in line with the guidance provided to companies throughout the course of the review.
- Assessed whether each company had allocated costs between customer types appropriately, in line with the guidance provided to companies throughout the course of the review.
- Allowed companies to claim for material new costs where they believed that 2013-14 costs were not representative of its particular costs for the period from 2015 onwards. Used comparative data derived from the companies operating wholly or mainly in England to determine efficient costs for companies that operate wholly or mainly in Wales. For the two companies that operate wholly or mainly in Wales, we adjusted their proposals with reference to an industry ACTS per customer as required.
- Allowed companies to claim for potential adjustments for material, unavoidable cost differences due to factors that are beyond efficient management control such as input price pressures that drove increases in expected efficient retail costs. Companies had to demonstrate why these pressures were not manageable within allowed revenues derived from historic costs and allowed net margin.
- Assumed customers will receive the minimum standards of service and compensation payments legally set down by the GSS.
- Incentivised companies to deliver high-quality service for customers where there will not be competition from 2017, by introducing outcomes incentives for companies operating wholly or mainly in Wales via an adapted version of the SIM. Companies were also free to propose further outcomes incentives covering retail activities.

The non-household element was separated from the household retail to account for the further market opening expected in 2017. This will allow all non-household customers of companies that operate wholly or mainly in England to benefit from a choice of retailer for water and sewerage services. The detailed approach was confirmed in the final methodology statement and explained in our draft and final determinations

The purpose of this control is to provide a backstop level of protection for customers before market opening, and for customers in the market that do not choose to switch.

Costs

As we expect competition to be a key driver of cost and service improvements, we have not applied an efficiency challenge to companies' non-household retail costs. We have only intervened where companies proposed that the non-household controls reflect material[xxix] cost increases from 2013-14 (the 'base year') that were not sufficiently justified. If costs above the materiality threshold were not justified then we brought costs down to the materiality threshold.

We also adjusted companies' proposed pension deficit repair costs to align to the overall allowance that we have set.

Customer types

Companies were required to allocate their costs to different customer types for the purposes of setting average allowed revenues for these customer types. We allowed companies to propose their own customer types (which we expected would broadly align to their existing tariff structures).

Net margins

Across these customer types, companies allocated their proposed net margins. In our risk and reward guidance, we considered an aggregate net margin of 2.5% to be appropriate; however, we recognised that this could vary by customer type. To encourage company ownership we allowed companies to choose where to allocate this margin across customer types.

We chose to remunerate input price pressure risks through the net margin and, having regard to the higher margin used for these controls, did not make an adjustment to allowed expected efficient costs for input price pressure.

Form of Control

The form of control is an average allowed revenue per customer in each class. The total amount of allowed revenue changes in line with movements in customer numbers as in the household retail control. The non-household retail form of control has an additional feature in that the allowed revenue is dynamically pegged to underlying wholesale revenues in order to avoid insufficient margins occurring due to changes in the wholesale charges.

During draft determinations we consulted with companies on their view of the duration of a control of this form. We gave them the option of a five year control as originally envisaged in our final methodology statement or to propose alternatives. As part of this we asked companies to provide evidence of customer engagement and support for their proposals.

Through their representations and query responses, companies showed a clear preference for a further review of aspects of the non-household retail controls in 2016 before the new market arrangements in 2017. We agreed this was an appropriate approach and so implemented it in our final determinations. We expect the 2016 review to focus only on the cost and net margin allocations between different non-household retail customer types covered by the non-household retail controls relevant for default tariffs, in light of further experience in the period before market opening. The review may also consider the duration of controls set from April 2017.

A2.6 Assessing risk and reward

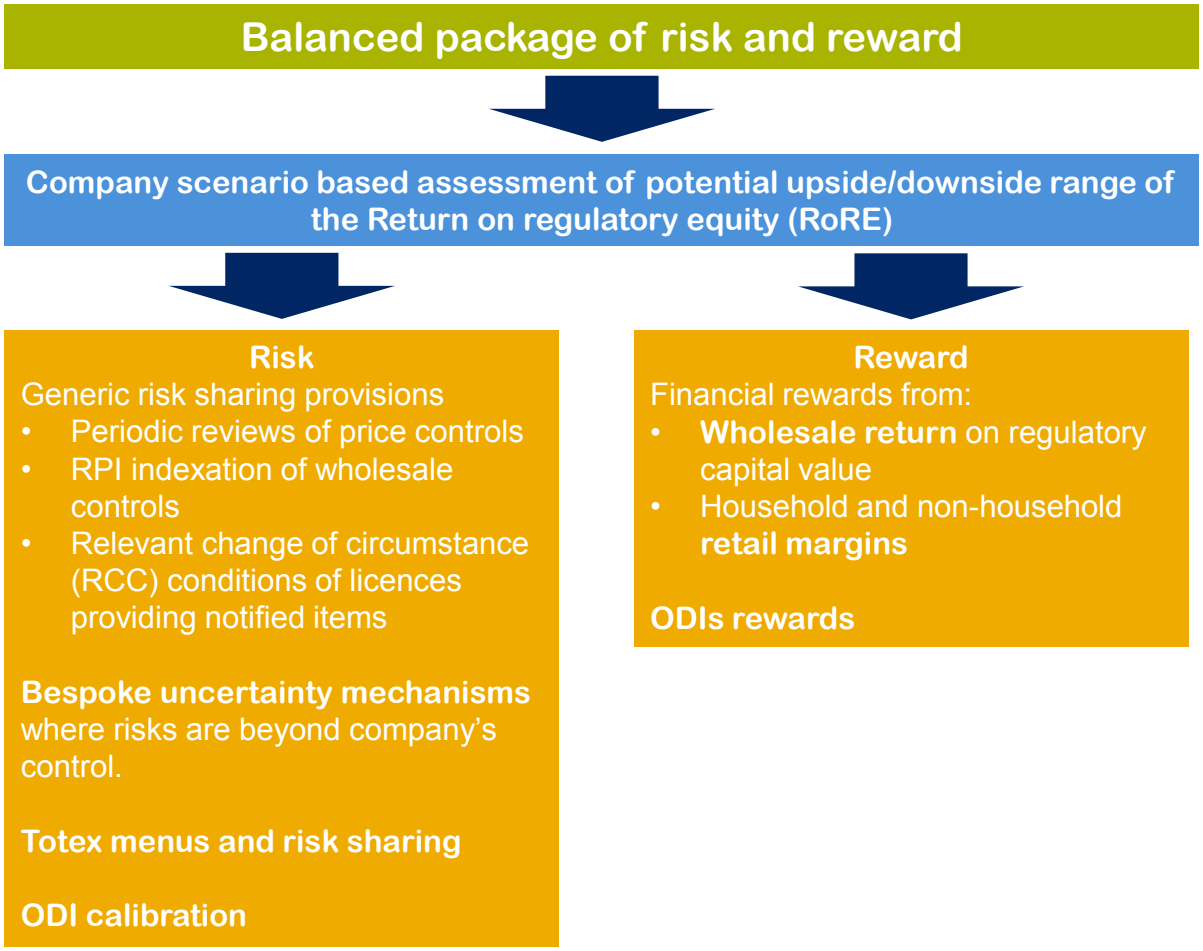
Overview of risk and reward

A balanced package of risk and reward benefits customers by providing meaningful incentives to companies to deliver the best service at the lowest possible cost and by ensuring that risks are allocated to companies where they are best placed to manage them. We considered the overall balance of risks facing companies in setting allowed wholesale returns, retail margins, incentives, scope for out and under-performance and specific uncertainty mechanisms. There is scope for well managed companies to outperform through cost and outcome delivery incentives.

The PR14 methodology provides companies with enhanced ability to manage risk by their menu choices, which determine risk sharing on totex outperformance and to propose their level of ODIs influencing the level of reward and the risk exposure for the delivery of outcome performance commitments. To enable systematic and quantitative risk assessment across companies, Ofwat required companies to provide risk analysis on their business plans based on a common set of assumptions.

Our approach was set out in the final methodology statement[xxx]. Following receipt of company business plans in December 2013, we considered that the proposed allowed returns in the plans was above market evidence and that ODIs provided insufficient rewards to incentivise performance aligned to customer interest. We published our view on the allowed returns, uncertainty mechanisms and expected range of Return on Regulatory Equity in our risk and reward guidance[xxxi] in January 2014. We noted that any company seeking specific company uplift to the cost of capital would need to demonstrate the benefits to customers from allowing an additional return as well as evidence on their additional costs. In their revised business plans, companies accepted our proposed level of allowed returns, although most WoCs continued to argue for a company specific uplift to returns.

Figure A2.6: Overview of risk and reward



A2.6.1 Key elements of approach to risk and reward - summary

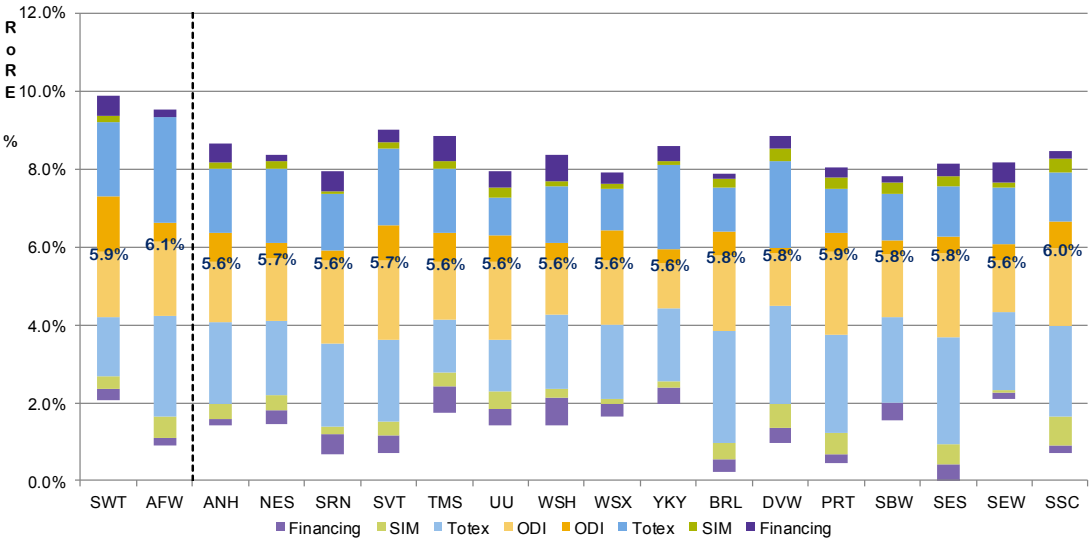
Our view on key elements of the risk and reward package at the final determinations is set out in table A2.1 below.

Table A2.1: Elements of the risk and reward package

Issue	Approach
Common uncertainty mechanisms	All companies to have access to a range of uncertainty mechanisms, such as: • the periodic review process, where revenues and outputs are reset after five years,; • indexing the RCV and wholesale revenue controls to RPI to protect companies against inflation; and • interim determination of K provisions in licences which allow

	price limits to be re-opened if the difference between efficient outturn and allowed costs reaches pre-determined thresholds
Additional uncertainty mechanisms	Additional uncertainty mechanisms only where companies are unable to materially influence the impact of risks on their business. We allowed all companies a notified item for water business rates reflecting level of uncertainty around these costs, the materiality of these costs and level of control companies have over these costs. We provided for a 75:25 share between customers and companies for these costs for all companies without an appropriate customer gain sharing mechanism and 80:20 share for South West Water and Sembcorp Bournemouth Water who had appropriate customer gain sharing mechanisms for outperformance. We also allowed a specific uncertainty mechanism for the Thames Tideway control to address risks around procurement of the infrastructure provider.
Allowed return on RCV for wholesale controls	Determined through an appropriate WACC using a notional capital structure. Further details on WACC calculation are set out below.
Company specific uplift on the WACC:	A company specific uplift allowed where companies could demonstrate incremental financing costs which where outweighed by customer benefits. Based on historic and expected financing costs, we concluded that all six small WOCs – including Bristol Water – had an incremental notional cost of debt finance of 0.25%, equivalent to a 0.15% uplift on the WACC. We provided an uplift to two companies, Portsmouth Water and Sembcorp Bournemouth Water, which provided benefits to customers, primarily through their contribution to wholesale cost benchmarks. We did not provide an uplift for the other companies, including Bristol Water, as there was insufficient evidence of customer benefits.[xxxii]
Net margin approach for retail controls	Different retail margins for the household and non-household retail controls given differences in competition risk, as non-household customers are open to competition from 2017. See details below.
Totex menus and performance	Companies can choose their point on the menu and so the sharing rate for outperformance and underperformance of the expenditure allowances.
ODI reward and penalties	Companies proposed a set of financial (and reputational) ODIs, which we subjected to challenge to ensure that they operated in the customer interest.

Figure A2.7: Forecast range for the Return on Regulatory Equity (RoRE)



Note: Based on company information

A2.6.1 Key elements of approach to risk and reward - Weighted average cost of capital

Consistent with previous Ofwat price controls we have set a single industry weighted average cost of capital based on a notional capital structure. This provides incentives for companies to efficiently finance their activities and for company management to take responsibility for their businesses actual capital structure.

Table A2.2: Drivers of the cost of capital

Issue	Value	Approach[xxxiii]
Cost of equity(post-tax)	5.65%	Based on Capital Asset Pricing Model using a mixture of market evidence and precedents from other sectors, this was based on a risk-free rate at 1.25%, the total equity market return at 6.75% and an asset beta of 0.3.
Cost of debt (pre-tax)	2.59%	Based on historic and forecast investment grade corporate bonds, we estimated an average historic cost of 2.65%, and new debt cost of 2.00% over 2015-20 and issue costs of 0.10% on both embedded and new debt, with a 75%:25% embedded: new debt split.
Gearing	62.5%	Taking account of companies' actual gearing, precedents from other sectors and gearing requirements for efficiency and financeability.
Appointee WACC (vanilla)	3.74%	Based on the above
Retail margin	1% household 2.5% non-household	Based on regulatory and competitive benchmarks for retail margins.
Wholesale WACC (vanilla)	3.60%	After deducting an allowance for the retail margin included in the appointee return.

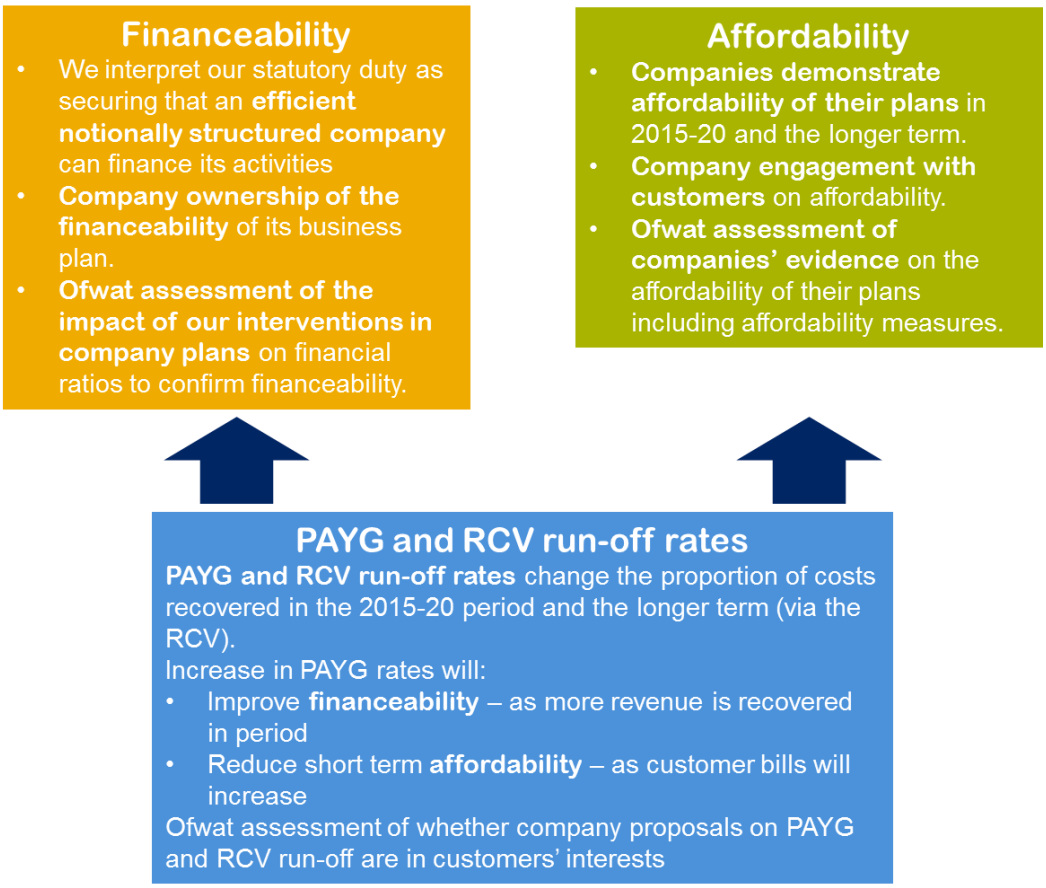
A2.7 Ensuring price controls are financeable and affordable

Overview of financeability and affordability

Consistent with our final methodology statement, we considered how the wholesale and retail price controls came together as an overall package, which may have a significant impact on customers through bills or companies and the financing of their functions. Our methodology required companies to demonstrate that their business plans were financeable as a whole (at the appointee level) and affordable for customers in the short and long term.

The detailed approach to financeability and affordability was confirmed in the final methodology statement and is set out in the draft and final determinations and is summarised in figure A2.8.

Figure A2.8: Overview of retail household controls



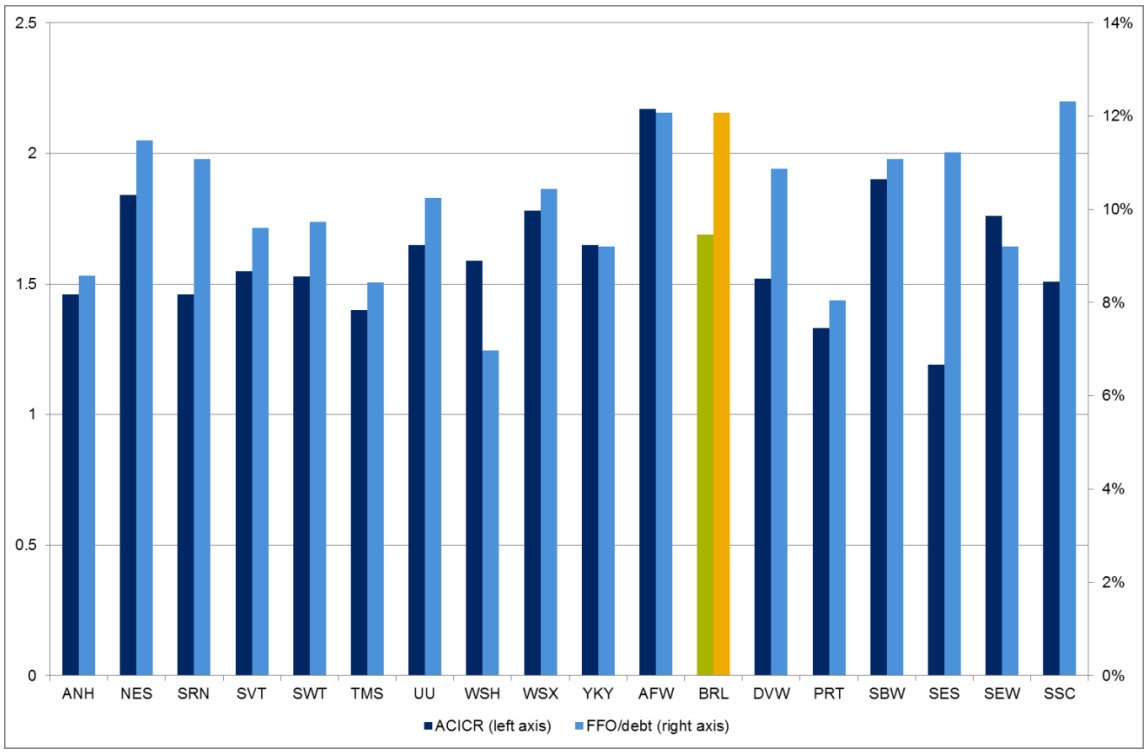
Consistent with our approach to PR14 is company ownership of both financeability and affordability with Ofwat assessing company evidence on financeability and affordability to ensure that plans are operating in the customer interest. We continue to interpret our financing duty as requiring that we ensure that an efficient company with a notional capital structure is able to finance its functions. A company's actual capital structure is a choice for the company and it bears the risk associated with its choices.

A2.7.1 Key elements of approach to financeability and affordability

Overview of key financeability ratios

We examined a range of financial ratios across companies to assess whether the final determinations were financeable (based on a notional capital structure). While financial ratios differed across companies, and in part based on additional assurance provided by some companies, we considered that the final determinations were financeable for all companies. This illustrates that Bristol Water is comfortably financeable, with ratios consistent with and in many cases better than other companies.

Figure A2.9: Financial ratios for the final determinations



Source: Ofwat financial model, note that financial ratios are based on Ofwat definitions

Impact of changes to PAYG and RCV run off rates

The move to a totex approach means that totex needs to be split between those that are recovered in period and those that are recovered over the long term (which are added to the RCV). The PAYG rate is the proportion of totex recovered in period. The RCV run-off rate is the proportion of the RCV amortised in period, and is consistent with regulatory depreciation in previous controls. The use of PAYG and RCV run-off is different to previous reviews where operating costs were remunerated in period, but capital costs were remunerated through capital charges (current cost depreciation for above ground assets and an infrastructure renewals charge for below ground assets). Consistent with company ownership of plans we have allowed companies to propose their own PAYG, RCV run-off rates and asset lives for totex additions. Companies could propose to bring forward allowed revenue by increasing the PAYG rate or RCV run off rate. A higher PAYG or RCV run off rate will improve financeability and increase customer bills in the current period but would reduce the size of the RCV, improving long term affordability. Overall the choice of PAYG and RCV run-off rate should be neutral to customers on a net present value basis in the long run.

In the representations to the draft determinations companies proposed changes to their business plan proposals for PAYG and RCV run-off rates for both financeability (to maintain notional target credit ratings) and affordability (smoothing bills over the long term). We assessed whether companies updated proposals for PAYG and RCV run-off rates were in customers' interests by considering:

- Quality of customer engagement: for example, the type of survey, sample size and CCG support.
- Basis of engagement: in particular, the 2015-25 bill profiles presented to customers and how they reflected their business plan.
- Proportionality: whether the adjustments proposed were proportional to the financeability or customer requirement.
- Evidence of net benefits: whether there is evidence of benefits to customers such as benefits from lower cost of debt in future price controls from maintaining credit ratings, from the updated proposals.

Based on the above assessment we allowed or partly allowed five companies to bring forward more allowed revenue into the next control period between the draft and final determinations and rejected the proposed changes for four companies. For Bristol Water, we asked the company to consider its PAYG rates for the final determination and received a late representation following this request – for the final we allowed the company to bring forward revenue using PAYG but this was based on using our assessment of PAYG to make transition to efficient level of allowed revenue.

Annex 1 Approach to Customer Engagement

We want price controls to deliver the best possible outcome for customers, the environment and society. Effective engagement is vital to establish a legitimate and fair price regime and ensure customer-buy-in. To do this, companies need to undertake good quality engagement with their customers and properly reflect this in the plans they submit to us. We then need to be confident that the company has done this in a robust way, otherwise we intervene.

Customer engagement, and how the results of the engagement should be reflected in price controls, is often a key focus of debate in a price review. After PR09, it was clear this was an area that might benefit from a new approach. This view was supported by the findings of the Gray review which stated that:

'They [consumer bodies] raised concerns about Ofwat micro-managing the companies and appearing to take ownership of their business plans. This was thought to lead to a culture of compliance rather than innovation, with companies focussing on meeting Ofwat's requirements rather than their customers.'

At PR14 we made very significant changes to the customer engagement framework. It was intended to facilitate a move away from the regulator telling companies what matters to customers and instead expecting companies to engage with their customers, form their own views making trade-offs and choices and ultimately deliver an overall coherent plan for current and future customers and, more generally, all stakeholders.

Our approach[17] built upon a body of work, initiated in 2010, to explore how we might improve customer engagement in the sector to both maintain legitimacy of the price setting process and ensure plans properly reflected customer priorities[xxxiv]. This formed part of our future price limit principles and a statement on how customers should be involve in price setting.

Key changes that we set out in the final methodology statement to facilitate this change were requiring each company to:

- directly engage its customers on issues including local services and tariffs;
- use the findings of this engagement to shape its work programme and the delivery incentives it faced; and

[17] We explain on our website the overall approach to customer challenge. Some of the papers include: Involving customers in price setting – Ofwat's customer engagement policy statement August 2011' IN 12/05 Involving customers in price setting – Ofwat's customer engagement policy: further information.

- set up a CCG to review and challenge the way it undertook its customer engagement and how well that engagement led to customers' views being reflected in its business plan.

The companies told us that they wanted to own their own engagement with customers and we agreed that was right. We confirmed that we would not commission our own research to test the acceptability of the companies' business plans, but we were clear about holding the companies accountable for testing their customers' support and providing proportionate justification and assurance.

The results from the company's local engagement were a key input into the discussions at the CCGs.

The CCGs were independently chaired, and included a wide range of stakeholders as members. In particular, they included members from the other sector regulators (Consumer Council for Water (CCWater), the Environment Agency, Natural England and the Drinking Water Inspectorate (DWI)) who were able to directly contribute to the development of each company's plan. They also included a range of other stakeholders such as local businesses, local authorities and organisations representing customers with specific needs (for example Age UK or Citizens Advice).

The CCGs had a key role in helping us target our scrutiny of company business plans by:

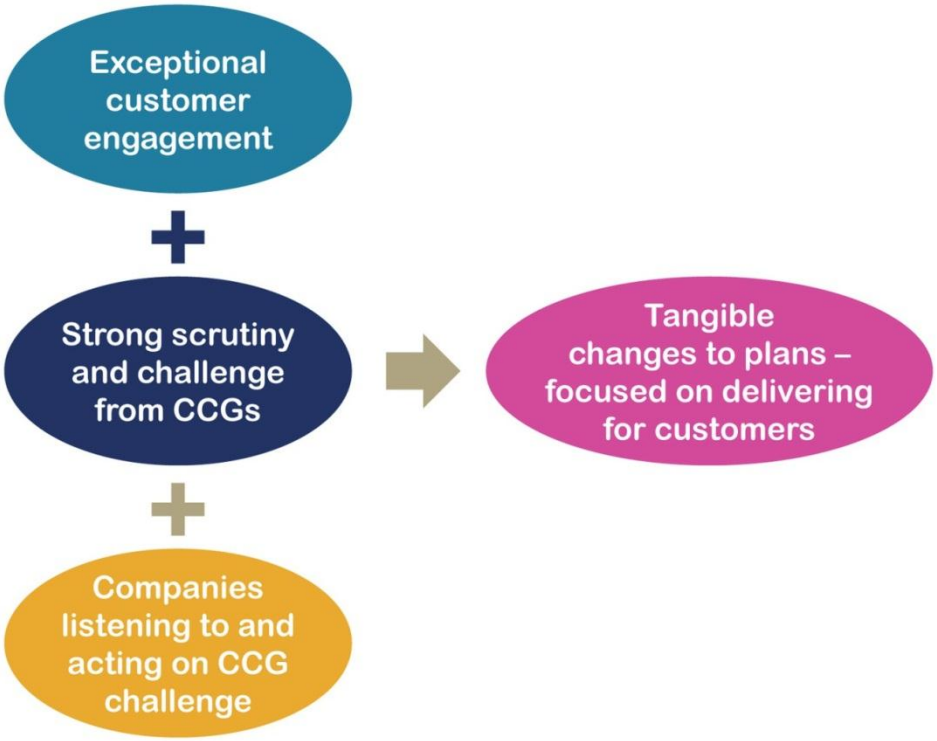
- challenging the quality of the customer engagement process.
- challenging how well the company's proposed outcomes and outcome delivery incentives reflect its customer engagement, and customers' views and priorities.

Each CCG provided an independent report to us at the same time as companies submitted both their December and revised business plans. We asked CCGs to set out an independent view of the quality of the company's engagement and how well that was reflected in the plan. This formed an important part of our process. In particular, when assessing the business plans as part of risk based review challenge we used the views of each CCG as a key input, in particular for the tests we performed for outcomes and affordability.

CCGs then played an important role in challenging any revisions to companies' proposals when submitting their revised business plans, and following the publication of our draft determinations.

The difference we have seen is a real culture change with a stronger focus on customers. It is clear that companies have engaged actively with customers, and have sought to reflect that engagement in formulating customer-focused plans.

Figure AA.1: Approach to customer engagement



CCGs have made a significant and important contribution to this step change.

Customer engagement was a key factor in helping us to decide which companies' business plans we need to challenge so that we could protect customers. But it was not the only factor. Plans needed to be well-evidenced, deliver required outcomes, including legal obligations, and be cost-effective to result in a draft determination resembling the company's business plan.

The CCG process was not a negotiated settlement. In fulfilling our duty to make determinations we used comparative information, which the CCGs would not have available to them, such as efficient costs. The horizontal checks that we carried out on outcomes, once we had the information to do so, enabled the CCGs to challenge the companies further before they contemplated their additional representations on our draft determinations.

Annex 2 Key modelling and policy documents for wholesale totex

This annex provides a summary of the key documents related to the expenditure allowance for wholesale price controls.

The models, and our approach to totex modelling, were developed over a number of years. Initial model development was undertaken by CEPA. Details can be found in prepared by CEPA and Mott MacDonald in May 2011 and Cost Assessment, a report prepared by CEPA, in January 2013. The wholesale cost modelling reports including the final CEPA report, explanatory documents, models and datasets from RBR, Draft Determination (DD) and Final Determination (FD) were published during PR14 and are available on the Wholesale cost assessment page.

- We used historic data from June Returns and Regulatory accounts and information from business plans. We also collected additional data in August 2013 and August 2014. We set out our requirements for the August 2013 data in IN13/05 August submission data requirements. We collected some of this data again for 2013-14 in August 2014. All the August data and the reporting requirements (included with the datasets) were published on our website at Companies' updated cost and performance (August submission) data

- After the RBR we held a wholesale cost assessment workshop for non-enhanced companies on 8 April 2014. The slides and Q & A from the workshop were published on our website at Outcomes of the risk based review and next steps - wholesale costs workshop: slides and questions and answers.

- We refined our modelling approach in our April, May and August draft determinations following:

    - further quality assurance work;
    - consideration of revised business plan proposals; and
    - representations on the results of the RBR.

- We also introduced an additional measure to protect customers in our draft determinations, intervening to 'cap' the difference between company forecasts of costs and our cost thresholds where company forecasts were significantly below these thresholds.

- In April 2014, we :
    - adjusted some of the wastewater model coefficients as a result of our continuing quality assurance work; and
    - amended the non-normalised coefficients of the random effects econometric models used for projecting wastewater base and treatment expenditure, and of the unit cost models used for projecting sanitary determinands and ultraviolet disinfection expenditure.

- After we published our wholesale cost assessment models on 4 April 2014, we asked companies to submit representations by 3 June 2014. We received representations from 12 companies, which we published on our website at Setting price controls for 2015-20 – wholesale cost assessment representations. We published our response to the representations in Annex 1 of Draft price control determination notice: technical appendix A3 – wholesale water and wastewater

- We collected additional data for 2013-14 in August 2014 (see 1st bullet above). We re-estimated the models using this data. We discuss this in Annex 1 of Final price control determination notice: policy chapter A3 – wholesale water and wastewater costs and revenues

- In September 2014, we updated the private sewer model to correct for an error and to take account of additional data from the August 2014 data submission to extend the panel data period (but we decided not to update other models for 2013-14 data as discussed further in the bullet immediately above above). We also updated our water supply/demand balance model, where appropriate, to take better account of information in draft and final water resource management plans.

Our overall policy and approach on wholesale expenditure was set out in our final methodology statement. But we also issued a number of supplementary policy documents to explain our approach in more detail as shown in table AA1. This is extracted from section A3.1.2 of Final price control determination notice: policy chapter A3 – wholesale water and wastewater costs and revenues.

Table AA2: Additional policy documents published relevant to wholesale water and wastewater costs and revenues

Document name	Publication date	Description/policy content
IN 13/17, 'Treatment of companies' pension deficit repair costs at the 2014 price review'	October 2013	Explains our proposed treatment of costs associated with water companies reducing the deficits in their defined benefit pension schemes.
'Setting price controls for 2015-20 – pre-qualification decisions'	March 2014	• Overview of RBR test applied for wholesale cost assessment and companies' performance against these tests. • Outlines 'do no harm principle'. • SIM direction of travel for 2015-20.
'2014 price review cost allocation for retail and wholesale price controls' (our 'guidance on cost allocation')	March 2014	Sets out a standard set of cost drivers for allocating 2013-14 costs between both the wholesale and retail and the household retail and non-household retail parts of the business.
'Setting price controls for 2015-20 – policy and information update'	April 2014	• Sets out our approach to baselines and menus for companies that are not enhanced. • Sets out equivalence of treatment for June and August draft determinations.
'Risk-based review initial threshold model'	April 2014	Provides an overview of the wholesale RBR template model and the main adjustments that are made in this model to derive RBR initial cost thresholds from the basic cost thresholds.
'2014 price review risk-based review – internal methodology' (our 'RBR internal methodology')	April 2014	• Sets out the principles applied when scoring the RBR tests and criteria. • Describes our detailed assessment methodology for each of our RBR tests.
'Setting price controls for 2015-20, Draft price control determination notice: technical appendix' ('the enhanced DD technical appendix')	April 2014	Our approach to wholesale price controls as part of the draft determinations for enhanced companies.
'Basic cost threshold feeder model'	April 2014	Guidance on the operation of the basic cost threshold feeder model including

Document name	Publication date	Description/policy content
		input data, variables, and totex and enhancement modelling.
'Setting price controls for 2015-20, Draft price control determination notice: technical appendix A3 – wholesale water and wastewater' ('the wholesale technical appendix to our August draft determinations').	August 2014	Restatement of our approach to wholesale price controls. In addition, it outlines our approach to 'capping' the difference between company forecasts of costs and our cost thresholds where company forecasts were significantly below these thresholds.
'IN 14/15: 2014 price review – timetable for setting charges for 2015-16 and making menu choices' (the 'information note on making menu choices')	September 2014	Sets out the timing for companies to make their menu choices.

Appendix 3 Glossary and references

Glossary

The glossary table below sets out some fo the key terms, abbreviations and acronyms used in this and linked documents.

ACICR	Adjusted cash interest cover ratio.
ACTS	Average cost to serve. The average cost per customer for the retail household element. The ACTS is the basis of our retail price control.
AMP	A plan submitted by a water company to Ofwat for a five-year period.
AMP period	A five-year period in relation to which an AMP is submitted by water companies to Ofwat. Also known as a price control period. AMP6— the AMP period April 2015 until March 2020, i.e. the PR14 price control period
BP	Business Plan. We require each appointed water company to submit a business plan at each price review.
Bristol Water	Bristol Water plc.
BRL	A term occasionally used by Ofwat to refer to Bristol Water and which hence appears in certain Ofwat comments about Bristol Water.
Capex	Capital expenditure – appointed water companies' spending on new, replacement or refurbished capital assets, such as construction and buying machinery.
CC	Competition Commission
CCG	Customer Challenge Group. CCGs played a key role in helping us to scrutinise of company business plans.
CCWater	The Consumer Council for Water. A statutory consumer body representing water and sewerage consumers in England and Wales.
CIS	Capital incentive scheme. A system of incentives used at PR09 that explicitly recognises that appointed water companies have access to better information about their future capital expenditure needs than we do. It offers a system of incentives to deal with this, structured so that the company has an incentive to produce realistic and credible expenditure forecasts before price limits are set. After price limits have been set each company retains the incentives to outperform our determinations, with the

	reward being higher for those companies that have made more challenging expenditure assumptions.
DD	Draft Determination: produced by Ofwat during each periodic review, serving as the basis for consultation on the price limits for each company. The PR14 DDs were published on 30 April 2014 for the enhanced companies, 30 May 2014 for the early DD companies and 29 August 2014 for all other companies.
DWI	Drinking Water Inspectorate.
EA	Environment Agency.
Enhanced company	A company selected for enhanced status, due to the high quality of its business plan. The benefits of being awarded enhanced status include a higher totex allowance, acceptance of the business plan 'in the round' and an earlier publication date for the draft determination. Also known as a fast-tracked company.
FD	Final determination: produced by Ofwat at the end of each periodic price review, setting out the price limits for each water company. The PR14 FDs were published on 12 December 2014.
Final methodology Statement	Ofwat (July 2013), 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans'
FFO	Funds from operations
Gearing	A company's net debt expressed as a percentage of its total capital. For Bristol Water, this is calculated as: net debt/RCV.
GSS	Guaranteed Standards Scheme. A scheme that lays down the minimum guaranteed standards of service that appointed water companies have to deliver
HH	Household.
IDoK	Interim Determination of K: a new determination of the K factor by Ofwat between periodic price reviews in response to changes in circumstance as set out in Condition B of the licence.
ICR	Cash interest cover. The number of times an appointed water company's profits cover interest due on all its borrowing, before interest and tax.
K or K factor	At each periodic review Ofwat determines K factors for each year of the five-year price control period. K factors are different for each water company and represent the amount by which a company is allowed to increase the amount it recovers from customers in real terms. The price limits Ofwat sets for companies are accompanied by a set of outcomes that Ofwat expects the company to deliver within those price limits. Also known as an adjustment factor.

KPI	Key Performance Indicators
Licence	An instrument appointing a water undertaker (or water and sewerage undertaker) under Part II of the WIA 91.
Methodology Consultation	Ofwat (January 2013), 'Setting price controls for 2015-20 – framework and approach - A consultation'
NEP5	A programme of work covering the expected requirements under Phase 5 of the Environment Agency's National Environment Programme (NEP5). Making adequate provision for the activities expected in the 2015-20 plan period under NEP5 is a requirement of PR14, as set out in DEFRA's Statement of Obligations.
NHH	Non-Household
Notified Item	An item listed by Ofwat in a final determination which, if its cost changed, could be used by water companies as a reason for a request for an IDoK. A 'one way' NI allows the water company to request that Ofwat make an allowance before the next periodic price review if certain conditions are met. A 'two way' NI also allows Ofwat to intervene to reduce an allowance.
ODI	Outcome Delivery Incentive - ODIs were introduced during PR14 as part of our outcomes based approach to focus companies on delivering a result or action that customers and society value.
OIA	Opex Incentive Allowance
Opex	Operating expenditure. For Bristol Water, opex may be categorized as base opex, which is the expenditure necessary to maintain stable serviceability or current service, and enhancement opex, which is either the expenditure necessary to support enhancement capex (in terms of supply demand balance, resilience and water quality) or operating expenditure to wholly deliver an enhancement by itself.
PAYG rate	Pay-as-you-go rate, the proportion of 2015-20 totex that is recovered during the 2015-20 price control period. The remainder is added to the RCV and recovered in future periods. This rate is set by the company as part of its business plan. Also known as fast money rate.
PC	Performance commitments
Periodic Review	The process undertaken every five years by Ofwat to determine water company price limits for the next five years. • PR04 covered the period from 2005 until 2010; • PR09 covered the period from 1 April 2010 until 31 March 2015; • PR14 covers the period from 2015 to 2020; and • PR19 will cover the period from 2020 to 2025.

Price limit	The maximum amount a water company may charge under the terms of its licence. Condition B 8.4 of Bristol Water's licence defines the charges limit as RPI + K where RPI is the percentage change in the retail prices index between November in the prior year and the immediately preceding November and K is the adjustment factor.
PR09	The 2009 price review
PR14	The 2014 price review
RBR	Risk-based review. The risk-based review we carried out between December 2013 and March 2014 in order to select enhanced companies.
RCC	Relevant change in circumstance. Variations in circumstances which can trigger an interim determination of the price limits (K factor). RCCs are laid down in licence condition B.
RCM	Revenue correction mechanism. The RCM was introduced at PR09 for the years 2010-15. When we set price limits, we assume that each company will be able to recover a certain amount of revenue. In practice, the amount of revenue a company can recover will be different from the assumption we made. The RCM is a way of sharing the benefits and risks of this between the companies and their customers. The RCM also provides a financial incentive for the companies to encourage consumers to use water wisely.
RCV	Regulatory capital value. The capital base used in setting price limits. The RCV was the market value initially assigned to each company prior to PR94 and now includes the net movement from this opening position of any additional net capital expenditure, less current cost depreciation and infrastructure renewal charges.
RPI	Retail price index
RCV Run-off rate	The proportion of the regulatory capital value that is recovered in period, equivalent to depreciation. This rate is set by the company as part of its business plan.
Risk and Reward Guidance	Ofwat (January 2014), 'Setting price controls for 2015-20 – risk and reward guidance'.
RoRE	Return on Regulated Equity. A concept introduced in PR14 as a key metric of returns to shareholders. Calculated as: • Return due to shareholders/equity component of RCV assumed in notional capital structure • Return due to shareholders calculated as EBIT − tax − (cost of debt × average net debt)
Serviceability	Ofwat measures serviceability by reviewing the trend in the number of actual incidents on the companies' networks, such as regulatory

	compliance failures at water treatment works for aboveground assets, and burst water mains for underground assets. The reference level of service is determined from a specific subset of public health, environmental and customer service indicators.
SIM	Service Incentive Mechanism. An incentive scheme designed to incentivise good quality customer service.
Totex	Total expenditure. A concept introduced in PR14, to replace opex and capex, where no distinction is made between capex and opex.
UQ	Upper Quartile
WACC	The weighted average cost of capital of a company, taking account of its various sources of finance. The 'vanilla WACC' is the weighted average real pre-tax cost of debt and real post-tax cost of equity, where tax is UK corporation tax. There are various approaches to calculating WACC and the appropriate method depends upon the context.
WaSC	Water and sewerage company. WaSCs provide water and sewerage services.
WIA91	Water Industry Act 1991 (as amended).
WoC	A water-only company. WoCs provide water but not sewerage services.

References in Appendices 1 and 2

[i] 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans'

[ii] Bristol Water formal notification letter

[iii] 'Final price control determination notice: company-specific appendix – Bristol Water'

[iv] The Companies Business plan submission and Revised business plan were published by the company on its website.

[v] As set out in section 7 of the Risk-based review initial threshold model, April 2014

[vi] Final price control determination notice: policy chapter A3 – wholesale water and wastewater costs and revenues

[vii] See Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – risk and reward' and Updated evidence on the WACC for PR14 PwC (December 2014)

[viii] Ofwat (August 2014), 'Draft price control determination notice: technical appendix A6 – risk and reward'.

[ix] Ofwat (January 2014), Setting price controls for 2015-20 – risk and reward guidance

[x] Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – risk and reward', PwC (August 2014), 'Company specific adjustments to the WACC - A report prepared for Ofwat', PwC (December 2014), 'Company specific adjustments to the WACC - A review of company representations', 'Company specific adjustments to the WACC - A review of company representations' and Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – Annex 3: benefits assessment of an uplift on the cost of capital'.

[xi] Bristol Water (June 2014), 'PR14 Business Plan – Wholesale Plan – June Submission', p. 102.

[xii] Bristol Water (June 2014), 'PR14 Business Plan – Wholesale Plan – June Submission', p. 105-106.

[xiii] See in particular PwC (December 2014), 'Company specific adjustments to the WACC - A review of company representations', p. 9-10.

[xiv] Bristol Water (June 2014), 'PR14 Business Plan – Wholesale Plan – June Submission', p. 107-109.

[xv] See in particular PwC (December 2014), 'Company specific adjustments to the WACC - A review of company representations', p. 14-23.

[xvi] Bristol Water (October 2014), Bristol Water Representation on the PR14 Draft Determination – Appendices, p. 204-205.

[xvii] Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – Annex 3: benefits assessment of an uplift on the cost of capital'.

[xviii] Bristol Water (October 2014), 'Bristol Water Representation on the PR14 Draft Determination – Appendices', p. 205-207.

[xix] Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – Annex 3: benefits assessment of an uplift on the cost of capital'.

[xx] See 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans'

[xxi] We published eight policy chapters to support the company specific appendices published for each company at final determination:
A1 – introduction
A2 – outcomes
A3 – wholesale water and wastewater costs and revenues
A4 – reconciling 2010-15 performance
A5 – household retail costs and revenues
A6 – non-household retail costs and revenues
A7 – risk and reward
A8 – financeability and affordability

[xxii] We published nine technical appendices to support the company specific appendices published for each company at draft determination.

A1 – introduction
A2 – outcomes
A3 – wholesale water and wastewater
A4 – household retail
A5 – non-household retail
A6 –risk and reward
A7 – financeability and affordability
A8 – charging
A9 - assurance

[xxiii] For example 'South Staffordshire Plc/Cambridge Water PLC merger inquiry A report on the completed acquisition by South Staffordshire Plc of Cambridge Water PLC' 31 May 2012 Competition Commission and 'South East Water Limited and Mid Kent Water Limited A report on the completed water merger of South East Water Limited and Mid Kent Water Limited '1 May 2007 Competition Commission

[xxiv] 2014 price review cost allocation for retail and wholesale price controls

[xxv] The Water Supply and Sewerage Services (Customer Service Standards) Regulations 2008 (SI 2008/594).

[xxvi] The SIM is based on relative achieved performance. It was first used during 2010-15 and formed part of the reconciliation for 2010-15 performance in PR14. We retained SIM for 2015-20 but adapted it to ensure it remained fit for purpose for the more focused retail controls.

[xxvii] As set out in IN 13/17 'Treatment of companies' pension deficit repair costs at the 2014 price review'

[xxviii] Our materiality threshold for new costs was set at 2.25% of household retail opex plus depreciation. This is consistent with the materiality threshold for other household retail adjustments. This was set to conform to the reasonable expectations of companies and be broadly consistent with the 0.5% totex materiality threshold used in the wholesale controls.

[xxix] We asked for justification of new costs that were driving the increase above our materiality threshold of 5.3%. See technical appendix A5 in the draft determinations for details on how this figure was derived.

[xxx] Ofwat (July 2013), 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans' and PwC (July 2013), 'Cost of capital for PR14: Methodological considerations'.

[xxxi] Ofwat (January 2014), 'Setting price controls for 2015-20 – risk and reward guidance'.

[xxxii] Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – risk and reward', PwC (August 2014), 'Company specific adjustments to the WACC - A report prepared for Ofwat', PwC (December 2014), 'Company specific adjustments to the WACC - A review of company representations', and Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – Annex 3: benefits assessment of an uplift on the cost of capital'

[xxxiii] See Ofwat (December 2014), 'Final price control determination notice: policy chapter A7 – risk and reward' and PwC (December 2014), 'Updated evidence on the WACC for PR14'.

[xxxiv] We explain on our website the overall approach to customer challenge. Some of the papers include: Involving customers in price setting – Ofwat's customer engagement policy statement August 2011' IN 12/05 Involving customers in price setting – Ofwat's customer engagement policy: further information.