Future use of menus as part of price setting methodology

Draft for discussion

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This paper has been written by Anglian Water as a contribution to Water 2020, Ofwat's programme for determining the form of the 2019 review of water price controls.

The paper is partly informed by the experiences and views of several of the water companies which participated in the 2014 price review. The contribution of those companies is gratefully acknowledged.

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1. Summary

- Menus can be used in economic regulation to encourage companies either to tell the truth in cost assessment or to stretch themselves on future efficiency. At PR14 Ofwat sought to use them for the latter.
- The enhanced business plan incentive derived from the assessment of business plans at PR14 was powerful in producing good quality plans and more effective than menus in encouraging truth telling. All companies admit to have been strongly motivated by it.
- However, to be effective at PR19 an enhanced business plan incentive would need to be strengthened by making companies aware at the outset of the value of the financial reward and the criteria for assessment. It would also be better to make such an assessment after a period of dialogue with companies to enable clarification of any uncertainties or misunderstandings.
- Most companies made no response to the stretch efficiency incentive in their final menu choices because it was very weak.
- The stretch efficiency incentive could be made more powerful at PR19 with different calibration of the menu. However, the complexity of menu methodology means it might yet remain ineffective. Furthermore, increasing the strength of the incentive increases the risk of unintended consequences and gaming.
- On balance, the use of menus should be discontinued at PR19, with the setting of a single outperformance incentive rate.

2. Purpose

The purpose of this paper is to examine the contribution of menus to price setting in water. It will assess the effectiveness of menus at PR14 against the behaviours they were intended to encourage, and consider whether menus should be retained as part of the price control methodology at PR19.

3. Background

Menus were introduced by Ofwat into the regulatory process[1] for the water industry in PR09 for the regulation of capital expenditure. Their use was continued and expanded by Ofwat to both operating and capital expenditure in the 2014 price review, PR14. A description of how menus work is set out in Appendix 1.

Menus are intended to deliver two benefits for customers. The first is to incentivise companies to forecast accurately their expenditure needs. This works because a company earns the greatest return if it accurately forecasts at the start of the period the expenditure it actually makes over the period. We will call this first benefit the **truth telling incentive**. Further explanation about the truth-telling incentive is set out in Appendix 1.

The second benefit is to give companies flexibility in determining how they will share efficiencies with customers. This works because some companies back themselves to earn greater returns by setting themselves more ambitious efficiency targets. We will call this benefit the **stretch efficiency incentive**. Further explanation about the stretch efficiency incentive is set out in Appendix 1.

[1] As the Capital Incentive Scheme, CIS

While menus can in theory deliver both the potential benefits that have been ascribed to them, it is clear, in fact, that they can not in practice deliver both simultaneously. The truth-telling incentive is only delivered if companies have a single opportunity to submit their cost forecasts and they do so *in advance of* the regulator revealing its own assessment. In contrast, companies can only exercise their menu choice, and hence deliver the stretch efficiency incentive, *once the regulator's assessment has been revealed*. Both scenarios cannot coexist, so regulators must choose which of the menu benefits they would like to achieve.

The completion of the PR14 process makes this an appropriate time to consider whether either of the benefits menus are intended to deliver in theory has actually been delivered in practice. We will examine each of the benefits separately.

4. Was the menu effective in encouraging truth telling at PR14?

The menu was not effective in encouraging truth telling at PR14 because the design of the process did not allow it to be. Companies made their final menu choices at the very end of the process, after final determinations had been published. At this stage Ofwat's baselines had been finalised and companies 'truth-revealing' revelations could have had no further impact on them.

Ofwat effectively gave up the truth-telling benefit when it published the PR14 final methodology paper in July 2013[2]. In its consultation it had explored two possible approaches to implementing menus: one which used information in companies' business plans effectively to determine their menu choices and the other to allow companies to choose their options later in the price setting process. Ofwat chose the latter option. The first option would have given companies only one opportunity to submit their cost assessments, before Ofwat had revealed its own assessments, and forced truth-telling. In contrast, in the second scenario final choices were only made after Ofwat's assessments were known.

Ofwat may have been content to give up the truth-telling incentive of menus at PR14 because it had introduced a new feature to water price setting that proved to be a more than capable replacement: the **assessment of business plans**. Ofwat determined that all companies' business plans (their comprehensive proposals for the five year period for which Ofwat was setting price controls) would be assessed for quality. High quality plans would be classified as 'enhanced' and the companies that submitted them would be rewarded, while plans not even deemed to be standard would be classified as 'resubmission'. This innovation was given high profile: Ofwat said, '*we will put an assessment of the quality of companies' business plans at the heart of the price setting process'*[3].

The specific criteria for assessing business plans were not set out in advance by Ofwat but, in outlining the characteristics of an enhanced plan, Ofwat included

[2] *Setting price controls for 2015-20 – final methodology and expectations for companies' business plans*, Ofwat, July 2013, pages 88-89
3 *Ibid, pages*

that it would be '*cost efficient, containing accurate projections and estimates*'. The rewards for being enhanced were also not detailed but were said to include:

- reputational benefits from the higher regard obtained by the company, reduced scrutiny and challenge
- advanced clarity through earlier draft determinations, and
- financial incentives[4].

The penalties for being classified as re-submission were also not set out in detail but included the requirement to rework elements of the plan and be subject to more intense scrutiny and challenge.

We will call this alternative truth telling incentive the **enhanced business plan incentive**.

We have little doubt that the enhanced business plan incentive was effective at PR14 and offer evidence from three sources.

Anecdotal evidence
It was very apparent from conversations between company representatives over the course of the price review period that all Boards were very aware of the enhanced business plan incentive and actively responding to it. Reputational incentives have always been powerful in water and it was clear from all industry forums that this one was no different. One reported comment from an industry employee probably sums it up: "if there's a competition going, my chief exec is going to want to win it."

In the author's own company all Board discussions about the business plan were influenced by the existence of the enhanced business plan incentive (including the wish to avoid resubmission), with options tested against their impact on it.

Evidence from companies' plans
We see evidence in companies' plans that they responded actively to the prospect of earning an enhanced assessment or avoiding re-submission. In its March 2014 review of companies' business plans Ofwat commented: "*All water and wastewater companies have worked hard to take ownership of their plans. We have seen **a real change in approach**, which will benefit customers. It is clear that companies have engaged actively with customers, and have sought to reflect that engagement in formulating customer-focused plans.*[5]" Ofwat went on to list examples of the 'exceptional practices' it had identified.

As well as striving to do well on business planning tasks Ofwat had mandated, such as assessing costs and engaging with customers, companies also included in their plans innovative, bespoke offerings. These included

- a Board pledge to share the benefits of success fairly between customers and investors within an independently monitored and transparent performance sharing framework

[4] The only specified benefit in this category was 'access to enhanced menus with greater shares of cost outperformance'. In this way Ofwat was offering as a reward from one incentive a benefit obtainable via another. However, financial rewards could have been delivered through other means and the existence of a menu was not a pre-requisite for the delivery of the enhanced business plan incentive.
[5] *Setting price controls for 2015-20 – pre-qualification decisions* , Ofwat, March 2014

- a proposal to share the benefit with customers should the return on the appointed business exceed a given level
- a mechanism to share with customers the consequences of high inflation
- an interest rate gain/pain share mechanism.

It is likely that these offerings were volunteered in response to the enhanced business plan incentive.

Actions taken by companies in response to the enhanced business plan incentive were not necessarily confined to their business plans. Before the announcement of the results of Ofwat's business plan assessment process March 2014 six companies volunteered not to apply the full increases to customers' bills for financial year 2014-15 and a further two brought forward bill reductions they were expecting to make in 2015-20. Consideration of the enhanced business plan incentive may have also contributed to the decisions of most water and sewerage companies not to seek price increases via an IDoK to recover higher costs they had all incurred from the adoption of private sewers. The timing of IDoK references would have coincided with the period in which business plans were being assessed.

Survey evidence
To test our view of the enhanced business plan incentive across the industry, we surveyed the regulation managers of all 18 companies whose price controls were set at PR14. The survey question was this: *Thinking about PR14, how strong was the incentive in your company to achieve enhanced status, or avoid re-submission status, when putting together your plan, on a scale of 1 (very weak) to 5 (very strong)?*

We received responses from 12 companies, representing two-thirds of the industry and a mixture of water only and water and sewerage companies. Of these, five responded with a score of 5 and five with 4[6]. Two companies responded with a 3, but of those one said that because of company-specific issues it regarded the prospect of being assessed as enhanced as very low. No company gave a score lower than 3.

How important was the incentive to achieve enhanced status or avoid re-submission?	**Companies**
5 (very important)	5
4	5
3	2
2	0
1 (comparatively unimportant)	0
Total	**12**

Our survey highlights the power of the enhanced business plan incentive.

[6] Four companies stated that the incentive to avoid re-submission was higher than the incentive to achieve enhanced, and for two of those companies the incentive to achieve enhanced was rated at only 2.

5. Was the menu effective in encouraging stretch efficiency at PR14?

We suggest that the stretch efficiency incentive was not at all effective at PR14. We offer evidence from two sources and suggest reasons why this might have been the case.

Companies' final menu choices

We have analysed companies' behaviour in the final stage of the 2014 price review, where they made their final menu choices. As a reminder of the process, companies had made their initial cost assessments in their first (December 2013) business plans, at a point when they were subject to the enhanced business plan incentive. Ofwat's final determinations (FDs) in December 2014 were based on companies' final cost assessments (reflecting any amendments to their December 2013 assessments) and Ofwat's final baselines; companies' 'implied menu choices' for the purpose of the FDs were calculated as the ratio between the two. However, Ofwat gave all companies the chance to make a final menu choice after receipt of their FDs, allowing them to choose a position on the menu that was different from their implied choice. This was the stage in the process where companies had the opportunity to respond to the stretch efficiency incentive.

The table below summarises the decisions companies took in response to this choice (the full results are in Appendix 2). We have the decisions of nine water and sewerage companies, who each made two choices (for the water and sewerage price controls), plus the decisions of the eight water only companies, making 26 decisions in total. We can identify three different choice strategies:

Choice strategy	No. decisions	%
Sticking with the business plan assessment and implied menu choice	20	77%
Choosing the baseline	3	11%
Choosing a lower ratio other than the baseline	3	11%
Total	**26**	**100**

The table shows that the most popular strategy was to stick with the implied menu choice and offer no further efficiency, this strategy being chosen for 77% of decisions.

In three cases companies chose the baseline rather than their business plan choice, which in each case represented a more challenging assessment than the one they had made in their business plans. On the face of it these companies may have been responding to the stretch efficiency incentive but, on the contrary, two of these companies stated that the driver for this choice was simplicity. Rewards and penalties for delivery of outcome delivery incentives (ODIs) in final determinations had been calculated on the basis of bid ratios of 100 and, if making a different choice, companies had to recalculate those rewards and penalties. Dee Valley and South East Water both stated that, in order to reduce confusion, they did not want to present their stakeholders with a new (marginally different) set of rewards and penalty values. Their strategy was therefore motivated by consistency and clarity rather than the potential rewards that the incentive offered.

In only three cases did companies choose a lower ratio other than the baseline. Two of these choices were made by Northumbrian Water, which stated that in the context of its vision of being the national leader in the provision of sustainable water and waste water, which includes being at the leading edge for efficiency, it wanted to stretch itself on efficiency and seek to match menu choices achieved by other companies. The other company making a choice in this category was Bristol, which was a notable outlier in terms of its implied menu choice. Bristol's decision may have been influenced by considerations of strategic positioning ahead of its subsequent appeal against its final determination.

When they came to making their final choices companies should, in theory, have been attracted by the rewards available from the stretch efficiency incentive. However, we find that this incentive motivated companies to respond in only four choices at most. Most companies did not respond to this incentive, even companies which have a track record of successfully outperforming on cost and might have expected to earn enhanced returns.

Here are some theories to explain the consensus decision not to move from the implied menu choice:

- Companies had already offered all their efficiencies, in their business plans (in response to the enhanced business plan incentive) and during the subsequent steps of the price review process
- Companies were concerned that reducing their cost assessments at the final stage in the process might be taken to mean that their initial plans were not their 'best offer'
- Companies assessed that the potential rewards that might come from making a different choice were insufficient to warrant the higher exposure to downside risk
- The manner and timing of reward-delivery, combined with tight financial ratios and other aspects of price control methodology, eroded the headline rewards to unattractive levels.

Survey evidence

To understand companies' attitudes towards the menu, we again surveyed the regulation managers of all 18 companies whose price controls were set at PR14. The survey question was this: *Thinking about PR14, how important was your final menu choice in comparison with other decisions at PR14, on a scale of 1 (comparatively unimportant) to 5 (very important)?*

Again, we received responses from 12 companies. Of these, five companies responded with a score of 1 and six with a 2. Only one company responded with a 3. In other words, only one company thought this decision was averagely important and the majority thought it relatively unimportant.

How important was your menu choice?	Companies
5 (very important)	0
4	0
3	1
2	6
1 (comparatively unimportant)	5
Total	**12**

Comments made by companies include the following:

We considered whether there was an advantage from changing our menu choice and decided that it was not significant

The menu choice incentive was relatively weak, when compared with the incentive to outperform the totex allowance and other incentives like ODIs

We couldn't actually see very much point in the choice – it made trivial difference to the numbers unless we were suddenly going to junk our Plan and come up with another number

It is the menu slope that is the main regulator risk reward judgement - the flat slope leaves little risk allocation transfer from menu choice.

The power of the stretch efficiency incentive

The theme from the comments above is that the rewards on offer from the PR14 menu were trivial and insignificant. The table below seeks to quantify this by illustrating the impact of the choice faced by companies in making their menu selections. The hypothetical scenario is a company whose FD was based on an implied menu choice of 100 but considers stretching itself to make further efficiencies during AMP6 of 5, 10 or 15%. The table shows that its rewards for achieving these extra efficiencies will be quite significant even if it does not move from its implied menu choice of 100. However the further additional rewards which it would receive from choosing those outturn levels *ex ante* are very marginal[7]. In other words, the rewards for outperformance are strong irrespective of the menu choice while the additional rewards from accurate menu choice are trivial.

Outturn	Reward – choice left at 100	Reward – choice matches outturn
100	0	0
95	2.50	2.53
90	5.00	5.10
85	7.50	7.73

[7] These are the theoretical rewards from the PR14 menus. In fact, the actual rewards were different because Ofwat delayed the impact of the menu choice until PR19. AMP6 allowed expenditures were not adjusted to reflect companies' choices and additional income in AMP6 was not allowed. The general impact of this decision was to reduce the rewards even further.

The AMP6 menu clearly delivers the promise that companies earn greatest reward if their menu choice *ex ante* matches their final outturn, but the value of this additional reward is very small, insofar as the menu was calibrated at PR14. Furthermore making a choice at this level brings to the company the downside risk that should their outturn be higher than 100 they will bear more of the pain of this under-performance.

6. Discussion

Incentives for truth-telling

It is clear that the enhanced business plan incentive was a powerful driver of behaviour at PR14. For some companies the incentive was to achieve enhanced assessment; for all, an even greater incentive was to avoid the resubmission assessment. The driver for avoiding re-submission identified by Ofwat (the cost of rework and further scrutiny) was undoubtedly strong but even more powerful was the desire to avoid the reputational damage that a re-submission assessment would bring.

Introduction of the enhanced business plan incentive at PR14 undoubtedly influenced companies' plans. Companies responded actively to the incentive, despite not knowing the criteria on which their plans would be judged nor the scale of the financial rewards they might earn.

Despite this conclusion, it does not necessarily follow that an enhanced business plan incentive would have similar power if used in exactly the same way at PR19. Many companies were disappointed by the results of the PR14 assessment, as the overwhelmingly dominant criterion determining the outcome was the cost assessment. The range of *'exceptional practices'* (Ofwat's words) and innovative offerings in companies' plans, while acknowledged, were overlooked, as was evidence of past performance and track record. Disappointment at the focus on cost assessment was compounded by a widespread lack of confidence in the models that generated Ofwat's cost baselines.

Companies were also surprised at the insignificant scale of the financial reward initially offered to the enhanced companies. It was not immediately obvious that the rewards compensated the enhanced companies for the challenging efficiencies (and consequently increased risk) they had proposed to achieve enhancement. In due course the reward for enhancement was made more significant because the enhanced companies retained Ofwat's initial cost of capital valuation while a lower value was used in the final determinations of other companies. However, this change was a consequence of market changes over the course of the price control period, was not planned and could not be necessarily expected to recur.

In view of what companies subsequently learned of the business plan assessment process it is unlikely that they would respond at PR19 in the same way as they did at PR14 if the incentive were applied in the same manner. Some may decide that the outcome is too uncertain and the financial rewards insufficiently attractive to warrant all-out pursuit of enhanced status. In the absence of greater certainty at PR19, companies may choose to disregard the incentive.

To be effective at PR19 an enhanced business plan incentive would need to be strengthened by making companies aware at the outset of the value of the financial reward and the criteria for assessment. It would also be better to make such an assessment after a period of dialogue with companies to enable clarification of any uncertainties or misunderstandings.

Incentives for stretch efficiency

Our analysis has shown that most companies made no response to the stretch efficiency incentive in their final menu choices and that the most likely reason for this is that the power of the incentive was very weak. While, this problem could be solved by changing the parameters of the menu (the stretch efficiency incentive could be made more powerful with different menu calibration), we question whether the benefit to customers of making this change is justified by the risks of doing so. At the heart of this trade-off is the complexity of menu regulation.

These are some of the characteristics of menu regulation that make it complex:

- Rewards and penalties are delivered in a number of ways. These include an *ex ante* revenue allowance ('additional income') and an *ex post* one. The *ex post* true up takes into account any reward already earned by the company via the financing allowance of the assumed expenditure.
- In calculating the final reward, adjustments to a company's bid ratio[8] have to be made for unforeseen events that occur during the AMP. In AMP5 these potentially included the effects of logging, shortfalls and IDOKs. The consequence of these adjustments is that a company's final bid ratio, which is used to calculate its final reward / penalty, may be different from its initial bid ratio. Furthermore the company may not be aware of its final bid ratio (which is supposed to influence its spending decisions) until very late in the price control period after such decisions have already been made.
- Adjustments are also required for inflation. In recent years the basis for calculating both of the inflation indices use in the water industry (RPI and COPI) has been challenged. Furthermore Ofwat has found it difficult to determine the correct application of inflation adjustments.
- There are many interactions between menu regulation and other components of price setting regime, such as the regulatory capital value (RCV), weighted average cost of capital (WACC), and PAYG ratios which determine the pace of cost recovery by companies. We have already described how companies' final menu choices required companies to make marginal adjustments to ODI rewards and penalties and that some companies opted out of this decision purely to avoid potential confusion for their customers.

Complexity is sometimes necessary and unavoidable but in principle simple regulation is preferable and the choice of a complex mechanism over a simple one should be justified in terms of the additional benefit it brings. The principles of better regulation include transparency: regulations should be simple and user-friendly. More fundamentally, it is generally recognised that individuals and

8 Bid ratio is Ofwat's terminology for the ratio between a company's cost assessment of costs and its baseline

bodies only respond to incentives that they understand, making complexity a potential barrier to incentive efficacy.

The complexity of menu regulation can be illustrated by considering the process for making the final menu choice in Anglian Water. We calculated revenues in AMP6 and AMP7 against a number of bid / outturn scenarios. Factors in the decision included the company's discount rate, the impact of the *ex post* true up on the company's RCV and how that would affect gearing and dividends. In making this assessment, we had to make assumptions about the form of the PR19 true-up, which of course was unknown. What was intended to be a simple judgment about our scope for outperformance was in fact a complex modelling exercise in which we had to examine the impact on all the moving parts of the regulatory mechanism and the company's financing arrangements. Parts of the calculation had to be assumed and others could have been overlooked.

Our experience reminded us that unforeseen consequences are more likely to be concealed within complex mechanisms. Furthermore we also noted that complex mechanisms invite participants to seek opportunities for reward through behaviours other than those intended to be incentivised by the mechanism. Opportunities for 'gaming' and financial engineering are more likely to present themselves, or be sought out, in complex scenarios. We also noted that complexity increases the risk of error.

We suggest that the potential benefit which might come from strengthening the power of the stretch efficiency incentive at PR19 is outweighed by the excessive complexity of the mechanism. Also, given that it was not possible in the PR14 process to incorporate the impact of menu choices within AMP6 revenues, our view is that menu regulation should be removed from the PR19 methodology. We recommend that a single outperformance incentive rate is fixed at the outset of the price review to apply to all companies.

Appendix 1 – How menus work

Under menu regulation the regulator makes an independent assessment of how much money an efficient company needs to deliver its obligations. This baseline forms the basis of a menu of expenditure choices from which the company can select. The company is able to choose a figure above or below the baseline, usually within limits, according to how much money it believes it will spend. This choice determines how any subsequent variance between baseline and actual expenditure is shared with customers, known as the efficiency incentive. If the company sets itself a challenging target (say 80% of the baseline) it will be granted a higher efficiency incentive, enabling it to keep more of any subsequent variance. On the other hand, the company may make a more cautious choice (say 110% of the baseline) in return for a lower efficiency incentive, lower risk and a reduced reward.

The matrix below shows the menu matrix that was used at PR14. The columns indicate the choices available to companies and the rows show companies' outturn expenditure (all as a percentage of the baseline). The matrix shows the rewards earned for any choice / spend combinations as a percentage of the baseline.

	80	**90**	**100**	**110**	**120**	**130**
Efficiency incentive	54%	52%	50%	48%	46%	44%
80	10.4	10.3	10.0	9.5	8.8	7.9
90	5.0	5.1	5.0	4.7	4.2	3.5
100	-0.4	-0.1	0.0	-0.1	-0.4	-0.9
110	-5.8	-5.3	-5.0	-4.9	-5.0	-5.3
120	-11.2	-10.5	-10.0	-9.7	-9.6	-9.7
130	-16.6	-15.7	-15.0	-14.5	-14.2	-14.1
140	-22.0	-20.9	-20.0	-19.3	-18.8	-18.5

The matrix illustrates two key principles of menu regulation :

- Companies earn the highest reward if their actual spend matches their menu choice.
- Having made a menu choice, companies still earn a higher reward if they subsequently outperform.

The truth-telling incentive

A generally desirable outcome is that monopoly companies operate efficiently. One way in which the regulator encourages this is by allowing the company to recover from customers a level of expenditure which reflects all – or substantially all - of the efficiencies currently displayed by the market, such efficiencies being assessed on the basis of historical evidence. A second way is by encouraging those companies to continue seeking further efficiencies and spend even less than the regulator's assessment, or 'outperforming'. In the short term the company earns a reward for doing so and in the longer term customers benefit from the efficiencies achieved, as they inform future cost assessment.

Incentives for outperformance are therefore a standard feature of most regulatory regimes. However, their effectiveness depends in large part on the accuracy of the regulator's initial assessment of efficient cost. If this assessment is too generous, or insufficiently challenging, the company will be able to achieve outperformance too easily. In this scenario customers still receive the long term benefits intended by the incentive but at a lower scale or slower pace, while the company enjoys undeserved returns.

In the price setting process there is therefore clearly an advantage for the company to negotiate a higher cost assessment. Because the company understands its cost base better than the regulator can possibly hope to, a confident regulator will willingly listen to the company's representations. However if the regulator fails to identify a company that overstates its case for cost allowances it will not have fulfilled its duty to protect customers.

Until the 2009 price review in water (PR09) there was little disincentive for a company to overstate its case for cost allowances. Apart from a possible loss of credibility when its overstatement was revealed by excessive outperformance, there was little to lose for a company to strive for a high cost assessment. This made the regulator's task of determining an efficient assessment harder and created the need for a truth-telling incentive which rewarded honesty in the negotiations.

The stretch efficiency incentive

As set out above, outperformance by a company of the regulator's cost assumptions is a desirable outcome. As well as informing future cost assessment, outperformance benefits customers because a proportion of the outperformance – say, 50% - is shared with customers. Customers also share in the consequences of under-performance (where the company spends more than the regulatory allowance) in the same proportion.

This proportion, or sharing rate, is determined at the outset of a price control period but while it is fixed for this period for any one company it is not necessarily fixed at the same rate for all companies. Companies may differ in the extent to which they want to share the benefits of outperformance (the reward) and the costs of underperformance (the risks) with customers. Menus grant companies choice in where they would like to be positioned in this balance between risk and reward. Conservative companies may choose to share risk and reward equally with customers – constraining their reward but reducing their exposure to risk - while ambitious or confident companies may choose to stretch themselves, retaining more of any efficiencies that they earn while accepting greater risk exposure.

Customers benefit from this choice because ambitious companies are only able to get a higher sharing rate by setting themselves more demanding efficiency targets. Should the companies be successful, their customers receive a lower share of the efficiency earned but benefit from the efficiencies that have been revealed when costs are next assessed. Customers of all companies benefit from the extension of the efficiency frontier.

Appendix 2 – Companies' final menu choices at PR14

	Water		Sewerage	
Company	**Implied choice**	**Final choice**	**Implied choice**	**Final choice**
Anglian	102.9	102.9	98.4	98.4
Dwr Cymru	100.4	100.4	97.0	97.0
Northumbrian	98.3	94.0	98.4	94.0
Severn Trent	103.3	103.3	95.1	95.1
South West+	91.5	91.5	100.2	99.5
Southern	106.3	106.3	102.0	100.0
Thames	95.3	95.3	98.0	98.0
United Utilities *	100.5		106.2	
Wessex	103.8	103.8	102.9	102.9
Yorkshire	94.3	94.3	99.5	99.5
Affinity	94.7	94.7		
Bournemouth & W Hampshire	101.2	101.2		
Bristol	130.0	125.0		
Dee Valley	103.8	100.0		
Portsmouth	96.5	96.5		
South East Water	103.1	100.0		
South Staffs / Cambridge	103.2	103.2		
Sutton & East Surrey	102.5	102.5		

Three choice strategies can be identified:

- sticking with the business plan assessment and implied menu choice (coloured blue)
- choosing a lower ratio (coloured green)
- choosing the baseline (coloured orange).

+ Although South West appears to have made a lower choice for sewerage, their choice does reflect their plan as it is the one that gives the same incentive rate as the one they assumed in their customer engagement.

* United Utilities' final menu choice was not placed in the public domain