Affinity Water

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Affinity Water: Business retail price review 2016

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This report describes the approach taken by Affinity water to prepare its Business retail price review 2016 submission. Appendix A contains the Board Assurance statement whilst Appendix B provides a report on our PR16 submission prepared for us by Frontier Economics.

The number of default tariffs

Affinity Water currently operates with 5 default tariffs that control retail non-household revenues:

- Half yearly billed measured
- Monthly billed measured
- Unmeasured RV
- Unmeasured Assessed
- Special Agreements

From 2017 to 2020 and in line with the common structure for default tariff cap bandings set out in part 4.3 of *Business retail price review 2016 : statement of method and data table requirements,* it proposes to alter this so that from 2017, there will be 3 default tariffs:

- 0-5Ml measured, plus unmeasured RV plus unmeasured assessed customers
- 5-50Ml measured
- Over 50Ml measured, plus special agreements

To achieve this it has re-allocated customers from existing default tariff categories to align with the new default tariff structure. In most cases, this was a straightforward process. For example all unmeasured RV customers previously included in the Unmeasured RV default tariff were re-allocated to the new 0-5Ml band. Similarly all unmeasured assessed customers could also be transferred to the 0-5Ml band. All Over 50Ml customers and special agreement customers were transferred to the Over 50Ml band.

Broadly speaking, half yearly billed customers use less than 5Ml/year and monthly billed customers more than 5Ml. There are however some half yearly billed customers that use more than 5Ml per year and some monthly billed customers that use less than 5Ml. We ran reports against our billing system to identify customers with consumption around the 5Ml threshold and used this to determine which default tariff category customers should belong according to their consumption levels. As a result of this, about 500 monthly billed customers were allocated to the 0-5Ml band and a similar number of half yearly billed customers were allocated to the 5-50Ml band.

The number of eligible customers

The company does not expect large movements in the total number of customers compared to the values set at the PR14 review, and that there is no substantial effect on its cost and margin allocations, so in line with guidance, it has retained the number of customers adopted for the PR14 review.

Allocation of Costs

Starting with a schedule of costs, consistent with those reported in part 2C of the Regulatory Accounts 2015/16, our approach to cost allocation has been to directly attribute operating costs to default tariff bands where these can be separately identified. For other costs which cannot be directly attributed, we have used indirect attribution based on use of appropriate cost drivers that closely represent the activities underlying the costs. The cost drivers we have used to allocate each element of retail non-household operating costs to default tariff categories are set out below:

Table: Cost drivers

Operating Cost Element	£k 2015/16	Cost driver
Billing	165.803	Number of bills raised
Payment handling, remittance and cash handling	32.097	Number of payments processed
Debt management	446.661	Number of billed properties
Doubtful debts	572.263	Actual doubtful debt provisions
Charitable trust donations	0.000	NA
Vulnerable customer schemes	17.478	NA
Non network customer enquiries and complaints	312.218	Number of billed properties
Meter reading	593.595	Number of meter reads
Meter maintenance/installation non capex	0.000	NA
Network customer enquires and complaints	211.660	Number of billed properties
Disconnections	4.088	Disconnections costs assumed to be recovered directly from the customers being disconnected, so not recovered under default tariff allowed revenues
Demand side water efficiency initiatives	5.936	Directly allocated 100% to 0-5Ml band
Services to developers	533.341	Developer services costs assumed to be recovered directly from developers in contributions, so not recovered under default tariff allowed revenues
Support for trade effluent compliance	0.000	NA
Customer side leaks	21.635	100% allocated to 0-5Ml customers as company policy is not to offer leak

		allowances to large customers
Other direct costs	974.827	Number of billed properties
Total direct costs	**3,891.601**	**NA**
Scientific services	0.000	NA
Other business activities	18.390	Number of billed properties
Total business activities	**18.390**	**NA**
Local authority rates	48.571	Number of billed properties
Exceptional items	0.000	NA
Total opex less TPS	**3,958.563**	**NA**
TPS	0.000	NA
Total operating expenditure	**3,958.563**	**NA**

We obtained cost driver data by generating billing system reports that collect the customer accounts in each default tariff band, along with counts of the key customer service activities such as meter readings taken, bills issued and payments handled.

The doubtful debt provision was allocated directly by comparing customer account numbers from the list of non-household customers with current and past debt - as used to prepare the Regulatory Accounts - with the account numbers of customers known to be allocated to the 0-5Ml, 5-50Ml and Over 50Ml bands. For some customers we needed to extrapolate from available data to address unavailable data and were able to achieve a reasonable allocation of the doubtful debt provision across default tariffs.

We made a manual adjustment to reflect the costs of operating key account services for larger customers. We estimate that operating the key account service costs £150k, principally labour costs. We have therefore removed £150k from the 'other direct costs' line in the 0-5Ml category and moved this to the 5-50Ml and Over 50Ml categories, allocating the £150k cost in proportion to the number of key account customers in each band. This reflects the additional costs of providing the key account service and produces a more cost reflective result, ensuring that smaller customers who do not benefit directly from key account services will not need to contribute towards their provision.

We did not allocate developer services charges and disconnection charges to default tariff bands as we assumed that developer services costs are recoverable through the contributions made by those seeking new connections, and in the case of disconnections, that the costs are recovered through disconnection charges rather than through retail tariffs.

The results of our work to allocate 2015/16 costs across the new default tariff categories is set out in the table below. The cost to serve figures entered in our data table submission for 2017/18 are allocated in proportion to this cost allocation result. In our data tables, for years 2018/19 and 2019/20, we have reduced the cost to serve to reflect the same level of efficiency improvements as originally determined in PR14.

Table 2015/16 Cost Allocation to default tariffs

	0-5Ml	5-50Ml	Over 50Ml
	£k 2015/16p	£k 2015/16p	£k 2015/16p
Billing	152	12	1
Payment handling, remittance and cash handling	30	2	0
Debt management	430	15	2
Doubtful debts	388	102	82
Charitable trust donations	0	0	0
Vulnerable customer schemes	0	0	0
Non network customer enquiries and complaints	301	10	1
Meter reading	544	45	5
Meter maintenance/installation non-capex	0	0	0
Network customer enquiries and complaints	204	7	1
Disconnections	0	0	0
Demand side water efficiency initiatives	6	0	0
Services to developers	0	0	0
Support for trade effluent compliance	0	0	0
Customer side leaks	22	0	0
Other direct costs	789	136	50
Total direct costs for default tariffs	2,867	328	141
Scientific services	0	0	0
Other business activities	18	1	0
Total business activties for default tariffs	18	1	0
Local authority rates	47	2	0
Exceptional items	0	0	0
Total opex less TPS	2,932	330	141
TPS	0	0	0
Total operating expenditure for default tariffs	2,932	330	141
Depreciation	0	0	0
Total operating costs for default tariffs	2,932	330	141

Allocation of Net Margin

Ofwat's *Business retail price review 2016: statement of method and data table requirements* sets a maximum overall margin that can be recovered from default tariff customers at 2.5%. In deciding how to allocate this net margin across default tariff customers the company has considered:

- There should be no undue discrimination between customers, between or within tariff groups, which can be achieved if net margin allocation reflects the differences in risks between customers and the opportunity cost of capital required to deal with those risks

- The net margin should be adequate to allow an efficient retailer to enter and compete fairly, that is the margin should be adequate to allow an efficient entrant to earn a reasonable return

- Ofwat's guidance, that '*We would expect companies to consider whether it would be appropriate to have different net margins for different tariff bands, as there may be different relevant financing costs and risks associated with different customer types.*'

In considering net margins, the company has split net margins into 4 categories as tabulated below and estimated the net margin in each category. Further explanation of its approach and results are given in the paragraphs below the table:

Table: Allocation of net margin across default tariff groups

	0-5Ml	5-50Ml	Over 50Ml
Bad debt risk	0.61%	0.14%	0.14%
Working capital	0.26%	0.03%	-0.16%
Input cost risk	0.12%	0.02%	0.01%
Residual risk	1.96%	1.97%	1.98%
Total	**2.94%**	**2.16%**	**1.97%**

Bad debt

The company has considered the remuneration of bad debt risk as the cost of financing an amount of contingent capital sufficient to cover variability in bad debt costs. To inform itself about bad debt cost variability it has studied the past five years of bad debt costs as reported in the Regulatory Accounts and estimated the bad debt risk as being two standard deviations away from mean costs. It has determined that this would be the contingent capital requirement. It has allocated this contingent capital requirement across the default tariff groups in proportion to current (2015/16) doubtful debt and debt management costs.

To calculate the cost of financing, the company has assumed 10% cost of capital. In reaching its valuation of this cost of finance it has taken into account:

- The WACC allowed by Ofwat at PR14 for appointed businesses, 7.3% in pre-tax nominal terms

- Evidence from the CMA in its Energy Market Investigation, where it estimated the WACC of a standalone energy retailer to be 10% in pre tax nominal terms

- Evidence from regulators in other countries, notably in New South Wales where the estimated WACC for energy retailers is slightly higher than 10% in pre-tax nominal terms

Working capital

The company has forecast the total amount of revenue it expects to receive from customers for each default tariff and the wholesale charges it will need to pay. It has noted the payment terms for wholesale released by Open Water and also the payment terms it typically offers to customers. For example, that unmeasured and assessed customers are billed in advance and typically pay in two half-yearly instalments whilst measured customers' standing charges are

billed in advance, but volumetric charges are paid in arrears, either monthly, or six monthly. From this it has been able to calculate the amount of working capital required for each default tariff category and has assumed that this can be financed at a nominal cost of debt of 3.6%. The costs of financing working capital have been reflected in net margin allocations across default tariff categories accordingly.

Input cost risk

The company judges that of its retail costs, the greatest cost risk is labour cost inflation. As there is no RPI indexation of default tariff price controls, the company is exposed to unavoidable cost increases arising for example, from general economy wide wage inflation. To reflect labour cost risks in net margins across default tariffs our approach has been:

- For each default tariff, determine which cost items are most labour intensive
- Make a central assumption on labour cost inflation and apply this to the 2015/16 labour intensive cost items to estimate the scale of risk, and hence the amount of contingent capital that would be needed for each default tariff
- We have applied a 10% cost of finance to the amount of contingent capital we estimate would be required under each default tariff.

We have also considered that if customers switch supplier, we would lose the entitlement to recover the average cost to serve for those customers, but we may have to continue to incur fixed retail costs until we can adjust our operations to fit the smaller customer base.

To give scale to this factor we have assumed that 12.5% of customers switch each year, and have examined the degree of fixed costs in each default tariff category which would be likely to be unremunerated, until the company can adjust its fixed costs. This yielded a contingent capital amount for each default tariff which we reflected in net margin allocations by applying a 10% cost of capital to the contingent capital amount.

Residual risk

The residual risk element reflects the need to have adequate margins to enable efficient competitors to enter the market and achieve a reasonable return, and also those retail risks not specifically estimated in the other categories discussed above. We set the value of the net margin to be largely equal across the default tariff categories at the value needed to achieve an overall net margin of 2.5%, the maximum allowed.

Allocation of wholesale costs

To allocate wholesale costs, the company forecast its wholesale charges for 2017/18 by projecting forwards 2016/17 wholesale tariffs in line with the wholesale price control and other charging rules. For this purpose, it used the same model that it uses for charges setting each year. By aggregating expected wholesale revenues across the tariffs in each default tariff category it is able to forecast the wholesale element of overall retail revenue per default tariff category. The forecasts are produced in actual outturn prices so it was necessary to re-base them so that they were expressed in the same price base as PR14. In this way the company has met the requirements in p30-31of *Business retail price review 2016: statement of method*

and data table requirements, by not reporting *'variances that arise simply because RPI has turned out to be different from that expected at PR14'*

Calibration of uniform back stop controls

Our PR16 proposals produce gross margins for the 5-50Ml and Over 50Ml default tariffs that are close to the indicative 5% and 3% figures published in *Business retail price review 2016: statement of method and data table requirements*. For the 5-50Ml default tariff our PR16 proposals lead to a gross margin over expected wholesale costs of about 4.3%, whilst for the Over 50Ml default tariff, the figure is about 3.3%.

Significant Incidence Effects

Affinity Water has tested its PR16 proposals by calculating expected customer bills for 2017/18 assuming its PR16 proposals take effect and an alternative projection, assuming that the determinations set at PR14 continued unchanged. It has compared these two bill scenarios for a range of typical non-household customers against their 2016/17 bills, and on this basis is able to isolate and study the effects of PR16. For the purpose of bill comparisons it considered a range of 18 different types of typical non-household customers varying by:

- Type of customer – measured versus unmeasured
- Geographical location
- Consumption

As a result of this analysis, we forecast that customers in the 0-5Ml default tariff category will see bills that are about 0.5% higher than if the PR14 controls were allowed to continue unchanged. Medium and larger sized customers in the 5-50Ml and Over 50Ml bands will see bills that are about 0.5% lower than otherwise.

On the basis of this scenario analysis, Affinity Water concludes that the bill effects of its PR16 proposals, being contained within the +/- 0.5% range, are small enough that there are not likely to be significant incidence effects.

Customer Engagement

As noted above, Affinity Water does not expect there to be any significant incidence effects as a result of its PR16 proposals. Consequently, it does not believe the conditions for informing proposals with customer engagement, set out in part 4.2 of *Business retail price review 2016: statement of method and data table requirements* are applicable.

The company has however discussed it proposals with its Consumer Council for Water. On 13th July 2016, it discussed with CCW:

- its proposals to move from 5 default tariffs to 3 in line with Ofwat's methodology
- its approach to allocating cost to serve and net margins across the default tariff categories

- changes in bills to small, medium, large, extra large and unmeasured customers resulting from PR16, which are contained within the +/-0.5% range, compared to if PR14 controls were allowed to continue unchanged

- explained that the differential increases in bills are predominantly the effect of our re-allocation of net margin compared to that determined at PR14

- noted that these changes are not likely to create substantial or significant incidence effects

- how we have assured ourselves that our allocations of costs and margins are fair across customer groups, particularly as between small and large business customers

Appendix A: Board Assurance Statement

The Board has overseen the preparation of the Business Retail Price Review 2016 submission and has:

- Noted the requirements published in Ofwat's publication *Business retail price review 2016: Statement of method and data table requirements*;
- Considered the actions to be undertaken by management to prepare the submission to meet these requirements;
- Reviewed the processes established to provide assurance that the company complies with its relevant legal obligations; and
- Assessed the effects that the company's proposals are likely to have on non-household customers' bills and confirms that there are no instances where the bill changes for particular types of customers are likely to have significant incidence effects.

Because of the timing of the submission in relation to scheduled meetings of the Board, the Board established a sub-committee which included executive and independent non-executive directors to review the preparation of the submission and the assurance provided by internal and external assurance providers.

The sub-committee met to consider reports prepared by employees and external advisers in particular:

- External consultants (Frontier Economics) have reported on our proposals, particularly the allocation and attribution of costs and margins across default tariff categories and completion of the data tables;
- Internal reports setting out the methods used to produce the submission; and
- Our Senior Regulation Economist has reported on the engagement undertaken with CC Water

In light of and taking account of the above, the Company confirms that:

- The information provided is consistent with the Company's legal obligations (including where relevant, the prohibitions on undue discrimination or preference in licence condition E and licence condition R, and the charging scheme rules issued by Ofwat under section 143B of the Water Industry Act 1991) and competition law;
- While there are no instances where the bill changes for particular types of customer are likely to have significant incidence effects, the Company's PR16 proposals have nevertheless been reasonably informed by engagement with CC Water;
- The allocation and attribution of costs and margins to revised or new default tariff caps are reasonable and robust (with costs and margins attributed by appropriate drivers and activities,

and the proportion of costs subject to broader allocation rules kept to the minimum that is reasonably practicable); and

- Data tables have been completed accurately and consistently with any guidance that Ofwat has provided

Philip Nolan

Chairman

PR16 NON-HOUSEHOLD RETAIL PRICE CONTROL

Assurance report prepared for Affinity Water

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EXECUTIVE SUMMARY

Background and Objective

In April 2017, competition will be introduced to the non-household retail water sector in England. Ofwat will continue to protect non-household retail consumers for at least the first three years after April 2017, and will provide this 'back-stop' protection through the use of default price caps that will be applied as part of PR16.[1] On 19 May 2016 Ofwat published its final statement of method for the PR16 price control, including confirmation that it will apply uniform caps to gross margins for medium and large customers. Ofwat has decided to introduce these uniform caps to help simplify tariff structures, and provided indicative levels of these caps in its final statement of method.

Companies operating wholly or mainly in England are required to respond to Ofwat by setting out their proposed default tariffs for PR16, with supporting justification for these proposals. These companies are also required to provide Board assurance to Ofwat on whether the proposed tariffs are in-line with Ofwat's statement of method, and are consistent with competition law principles.

Frontier Economics has been commissioned by Affinity Water to review the analysis underlying its proposed non-household default tariffs. Based on this assessment, Frontier Economics has been asked to provide a view on whether Affinity Water's tariffs are consistent with Ofwat's stated policy for PR16, and with competition law principles.

The objective of this project therefore is to answer the following questions.

- Do Affinity Water's proposed default tariffs appropriately reflect the principles of competition law?
- To what extent are Affinity Water's proposed default tariffs consistent with Ofwat's final statement of method for PR16?

To consider these questions, we reviewed Affinity Water's proposed default tariffs, alongside the licence requirements relating to the economic principles in competition law, and Ofwat's final statement of method for PR16.[2]

Our conclusions

We employed an assessment framework based on fundamental economic principles relating to the design of a default tariff structure in a retail market newly open to competition. Our assessment considered whether the proposed default tariffs are cost-reflective and are likely to enable fair access to competition for different segments of the non-household market. Furthermore, our assessment framework paid attention to the principles of competition law and Ofwat's final

[1] PR16 is the name given to the non-household retail price control for the last few years of AMP6 (i.e. it will run from April 2017 for three years).

[2] Where relevant, we also referred to Ofwat's previous publications in relation to PR16, for example, its draft statement of method and its November 2015 consultation on PR16.

statement of method for PR16, as well as the general acceptability of the tariff structure.

Overall we find that Affinity Water's approach to determining non-household retail default tariffs is reasonable. We find that the approach taken by to allocate costs and margins to the default tariffs is appropriately evidence based, and reasonable. We provide below a summary of our conclusions.

- The allocation of costs uses appropriate drivers. In the cases where Affinity Water has used a driver that differs from Ofwat's minimum guidance it has done so on a considered view that the chosen driver is more cost reflective.
- The margin allocation is appropriately evidence based and appears reasonable.
- Our view therefore is that the resulting approach is consistent with competition law principles, in particular the proposed default tariffs are also consistent with licence condition E.
- In addition, the consistent application of these default tariffs by Affinity Water in our view would be consistent with the company's obligations under condition R (which requires it to show no undue discrimination between its customers and those of other licensed water suppliers) insofar as it relates to the structure of charges.
- We have not identified any issues with the way that the outputs from Affinity Water's workings have been transposed in to the Ofwat data tables.
- We note that Affinity Water's proposed default tariffs are consistent with the level of the uniform gross margin cap for medium users (5-50Ml) that Ofwat has indicated it is likely to use at PR16. For the large user group (>50Ml) the default tariffs imply a gross margin that is slightly higher than the level indicated by Ofwat.

1 INTRODUCTION

1.1 Background

Setting non-household retail tariffs for AMP6

In April 2017, competition will be introduced to the non-household retail segment of the water markets in England. Ofwat will continue to protect non-household retail consumers for at least the first three years after April 2017. It will provide this 'back-stop' protection through the application of PR16, the non-household retail price control for the last few years of AMP6. For the upcoming PR16 price control, incumbent water companies – such as Affinity Water – are obliged to offer a set of wholesale prices for potential new entrants, and a corresponding set of default retail tariffs.

These default tariffs must be cost-reflective and set in a way that allows sufficient margin between wholesale and retail prices so that potential new entrants can compete effectively in the retail market. Tariffs must be set in a way that is consistent with UK competition law principles, and in particular, in a way that avoids 'margin squeeze'.[3]

Companies were previously required to set default non-household retail tariffs as part of the PR14 price control. Any changes to the default tariffs that were proposed at PR14 will need to be well justified. Ofwat has stated that any new attribution of costs and margins to tariff groups should be robust, and based on a reasoned allocation method that uses appropriate cost drivers and activities.[4] In its final statement of method, Ofwat also noted that it would expect companies to engage with their Customer Challenge Groups (CCGs) on these matters, and provide evidence of their engagement in their proposals.

Ofwat re-emphasised in its final statement of method for PR16 that it is up to water companies to ensure that they comply with competition law principles. Companies have been asked to consider if they are confident that their proposed non-household retail tariffs comply with competition law principles.

Ofwat's final statement of method for PR16

Ofwat published its final statement of method for PR16 on 19 May 2016. In this publication, Ofwat concluded that experience from other sectors suggests that in the transition to full competition there will be a need for continued regulatory protections. In particular this protection should act to shield customers from potential abuse associated with any remaining pockets of substantial market power.

Ofwat re-iterated that it will use default tariff caps to provide this 'back-stop' protection for consumers. Confirmation was also provided that default tariffs will

[3] Margin squeeze arises when a vertically integrated firm increases its wholesale margin and lowers its retail margin to deter entry in the downstream retail market.

[4] Ofwat (May 2016), Business retail price review 2016: Statement of method and data table requirements

only cover existing tariff structures, and will not apply to innovative tariffs that emerge.

We provide below a summary of the key elements of Ofwat's final statement of method.

- **Average cost to serve:** Ofwat concluded that it would not be in the interests of consumers to revisit the matter of average cost to serve at this time. Companies will therefore be required to make proposals for default tariffs on the basis of the PR14 levels for average cost to serve. Ofwat did not rule out considering these issues at PR19, when retail and wholesale price controls will be reviewed together, and Ofwat will have the benefit of information revealed from the first few years of competition.
  - Ofwat accepted that incumbent retailers might benefit from economies of scale, but felt that it would not be appropriate to artificially set prices above efficient levels. Ofwat felt that doing so would not protect customers, and would not be necessary to encourage efficient entry.
  - Ofwat stated that it does not consider that comparisons with the energy sector constitute compelling evidence that cost allowances in the retail water price control are set too low.
  - Ofwat did state however that if substantial new evidence emerges that demonstrates the existing cost to serve is not in the best interests of customers, it will re-consider this at the PR16 draft determinations.
- **Net margins:** Ofwat stated that it intends to maintain the total net margin at 2.5% of total costs (i.e. wholesale plus retail). However, Ofwat stated that it would consider working capital costs again, once there is more clarity on the final proposals for the working capital arrangements that will apply after market opening.

  As companies must ensure that their default tariffs meet this total retail margin across all tariff groups, this means that the margin for one tariff group can only rise if the margin for another group falls.
- **Customer numbers and eligibility:** Ofwat will update the definitions in the regulatory accounting guidelines (RAGs), so that the automatic revenue adjustment mechanisms deal with changes in the eligibility criteria. Ofwat will not separately add a guarantee of revenue neutrality, as it feels this would modify the PR14 settlement and create additional complexity for PR19. Further confirmation was provided that if a company's Board is satisfied that modest changes to customer numbers would have no substantial impact on cost/margin allocations, the Board would not need to submit proposals for revised default tariff caps.
- **Uniform caps for medium and large users.** Ofwat concluded that issues of potential margin squeeze appear particularly pronounced for larger customers, where margins for default tariff caps appear "relatively tight". Ofwat felt that such caps might constrain companies' behaviour and could prevent companies from being held fully accountable for any anti-competitive behaviour. Ofwat therefore concluded that it would be appropriate to set uniform tariff caps for medium and large users.

- The uniform bands would be *average price caps*, so each company would be able to charge less than the cap.
- Ofwat's initial expectations for the level of these caps are: a gross margin of circa 5% for customers using 5Ml to 50Ml; and a gross margin of circa 3% for customers using over 50Ml. These caps will apply separately for water and sewerage users.

  Ofwat may change the level of these uniform caps at the PR16 draft determination.
- Ofwat will not make changes to the bespoke company specific controls for customers that use less than 5Ml. Ofwat does not consider that it would be appropriate to make automatic balancing adjustments to the default price caps for smaller customers.
- If incumbent companies want to rebalance the default tariff caps that will apply to customers consuming less than 5Ml, or if they need to create a new default tariff cap (due to the new caps cutting across existing bands), these companies will need to provide new information that clearly justifies their new cost and margin allocation. The evidential bar that Ofwat will apply to these proposals will be high.
- Ofwat may also introduce a supplementary restraint that prohibits companies from making increases in default retail tariffs that lead to a more than one percentage point increase in final prices in any year.

  Ofwat will confirm whether it will take this approach at the PR16 draft determination.

- **Board assurance:** Ofwat has the same requirements on companies' Board assurance as before, i.e. that the information provided by companies is consistent with their legal obligations, that proposals have been informed by customer engagement and that cost/margin allocations are reasonable.

1.2 Project objective

The objective of this project is to answer the following questions.

- Do Affinity Water's proposed non-household retail tariffs comply with Ofwat's methodology for PR16?
- Do Affinity Water's proposed non-household retail tariffs appropriately reflect the principles of competition law?

To consider these questions, we reviewed Affinity Water's proposed default tariffs, alongside the licence requirements relating to the economic principles in competition law, and Ofwat's final statement of method for PR16.

It is important to highlight that our assessment only considered the methods used to allocate costs and margins across tariff groups. We have not assessed the data inputs, including:

- customer numbers (in total, and in each tariff group);
- total retail revenue to be recouped;

- the split of costs / revenues between the household and non-household price controls;
- cost drivers; and
- other input data (such as the amount of bad debt).

Notwithstanding that, we note that Affinity Water has not updated its customer numbers to reflect the changes in customer eligibility. This approach is not inconsistent with Ofwat's latest guidance in its final statement of method which was: "if a company's Board is satisfied that modest changes in estimates of eligible customer numbers would have no substantial impact on its cost/margin allocations then it can provide assurance on this basis, and it will not need to submit proposals for revised default tariff caps to reflect inconsequential changes".[5]

1.3 Materials reviewed

To inform our assessment we reviewed the following materials.

- Ofwat (November 2015), Consultation on the review of non-household retail price controls.
- Ofwat (March 2016), Draft statement of method and data table requirements – Review of non-household retail price controls.
- Ofwat (May 2016), Business retail price review 2016: Statement of method and data table requirements.
- Affinity Water spreadsheet with calculations: Copy of Charging Spreadsheet 2017-18 (2)_AB (received on 12 July 2016)
- Completed Ofwat spreadsheet: NHH-Retail-PR16-Affinity – Draft Submission (received 12 July 2016)

1.4 Structure of this report

The rest of this report is structured as follows.

- In **Section 2** we provide a high-level discussion on the relevant competition law principles that the non-household retail tariffs need to be consistent with.
- In **Section 3** we assess the approach taken by Affinity Water to allocate its total retail costs to individual tariff groups.
- In **Section 4** we assess the approach taken by Affinity Water to allocate the total 2.5% net margin to individual tariff groups.
- In **Section 5** we provide our conclusions.

[5] Ofwat (May 2016), Business retail price review 2016: Statement of method and data table requirements

2 RELEVANT COMPETITION LAW ISSUES

In order to assess whether Affinity Water's non-household retail tariffs are likely to be consistent with competition law principles, we first need to establish the relevant competition law issues that could arise. The principles of competition law are reflected in the licence conditions that incumbent water companies must meet and in Ofwat's charging scheme rules. For example, licence condition E states:

> "*It shall be the duty of the Appointee in fixing or agreeing charges…that no undue preference is shown to, and that there is no undue discrimination against, any customer or potential customer".*[6]

We further note that licence condition R more generally requires that incumbent companies do not engage in any anti-competitive behaviour. Since our work is specifically related to the design of charges, rather than Affinity Water's behaviour more generally, we have only assessed Affinity Water's proposals against licence condition R insofar as they relate to the setting of charges.

We also note that competition law principles are reflected in the charging scheme rules issued by Ofwat.[7] These rules mainly relate to the wholesale charges that incumbent companies set, which are outside the scope of this review. However, to the extent that these rules also apply to the retail charges that companies set, they are relevant to our review.

In reviewing whether Affinity Water's tariffs are consistent with licence conditions E and R, the charging scheme rules issued by Ofwat, and the underlying competition law principles, we have identified the following aspects of tariff design that Affinity Water's proposals should meet.

- First, prices should be cost reflective, including a reasonable basis for the allocation of joint or common costs.
- Second, the profit level or margin should reflect a reasonable level of return that might be expected by investors, taking account of the risks involved. A margin that is too high relative to this level could be considered to be excessive pricing. A margin that is too low relative to this level could be considered to be anti-competitive by restricting efficient entry (a margin squeeze).

If the proposed tariffs meet these two principles, then no one tariff group should be given undue preference, or be unduly discriminated against.

This section therefore provides a high-level overview of:

- cost reflective charging;
- of the issue of margin squeeze, and then further details on how margin squeeze can be tested in practice; and

[6] Department of the Environment (2014): Instrument of Appointment by the Secretary of State for the Environment of Affinity Water Limited as a water undertaker under the Water Act 1989, p. 82

[7] Ofwat (November 2015), Charges scheme rules issues by the Water Services Regulation Authority under sections 143 (6A) and 143B of the Water Industry Act 1991

- of the issue of excessive pricing.

2.1 Cost reflective charging

There are a number of important cost concepts to be considered when assessing the cost reflectivity of tariffs.

- **Direct costs** – these are costs that can be directly attributed to a specific service or activity.
- **Joint costs** – these are costs than can be directly attributed to two or more activities, but cannot be directly attributed between them.
- **Common costs** – these are costs that cannot be directly attributed to an activity or service.
- **Stand-alone costs (SAC)** – this is the total cost of providing a single service independent of any other service.
- **Incremental cost** – this is the additional cost of providing a service alongside the provision of an existing group of services. This can be a long-run incremental cost (LRIC) which includes the capital costs of providing a service on a permanent basis.

The principles of cost reflective charging are as follows.

- All costs that can be directly attributed to a service should be attributed to that service. For example, the cost of a member of staff that works exclusively with large retail customers should be assigned to that group.
- Joint or common costs should be allocated between the relevant services using a metric that reflects the relative scale of the different services. For example, the allocation could be based on:
  - the split of direct costs across tariff groups;
  - being proportionate to the revenue of the service; or
  - a more general cost driver (e.g. number of customers or number of bills).

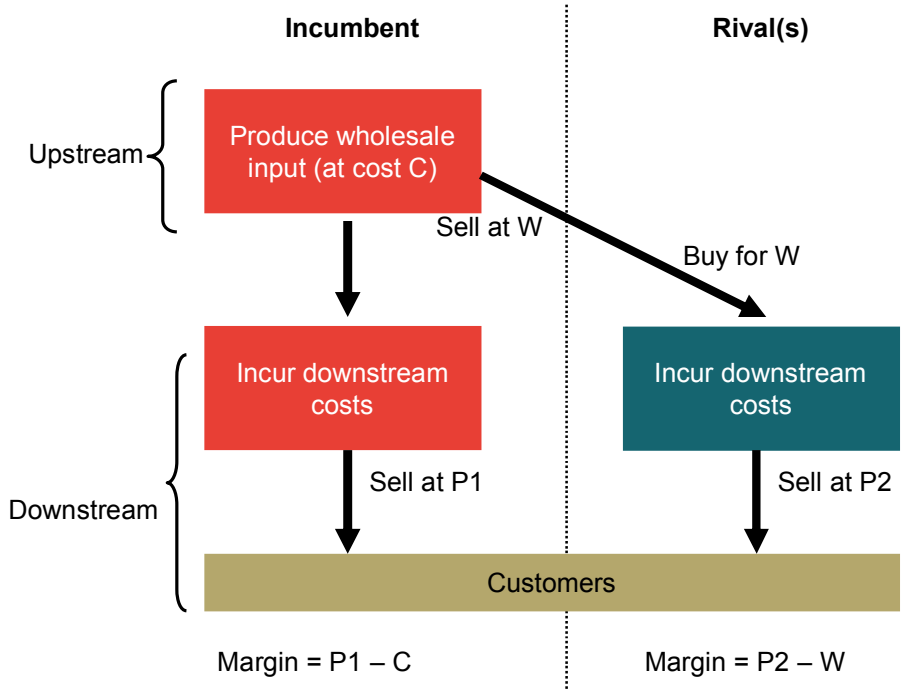
  There is no single 'right answer' to the allocation of common costs. It can be important to understand the sensitivity of the results to alternative allocation rules.
- The sum of direct costs and allocated common costs for any service should not be greater than the stand-alone cost or less than the incremental cost. These conditions set the boundaries around the allocation of common costs and provide an important cross-check on the method used.

Ofwat has provided guidance on the identification of direct costs and the allocation of common costs. One key question for our work therefore is whether this guidance has been followed and, if not, whether there is a clear justification (either in terms of data availability or objective rationale) for the decision to depart from the guidance.

2.2 Margin squeeze

Margin squeeze arises when a vertically integrated firm increases its wholesale margin and lowers its retail margin to deter entry in the downstream retail market. The exhibit below illustrates this concept.

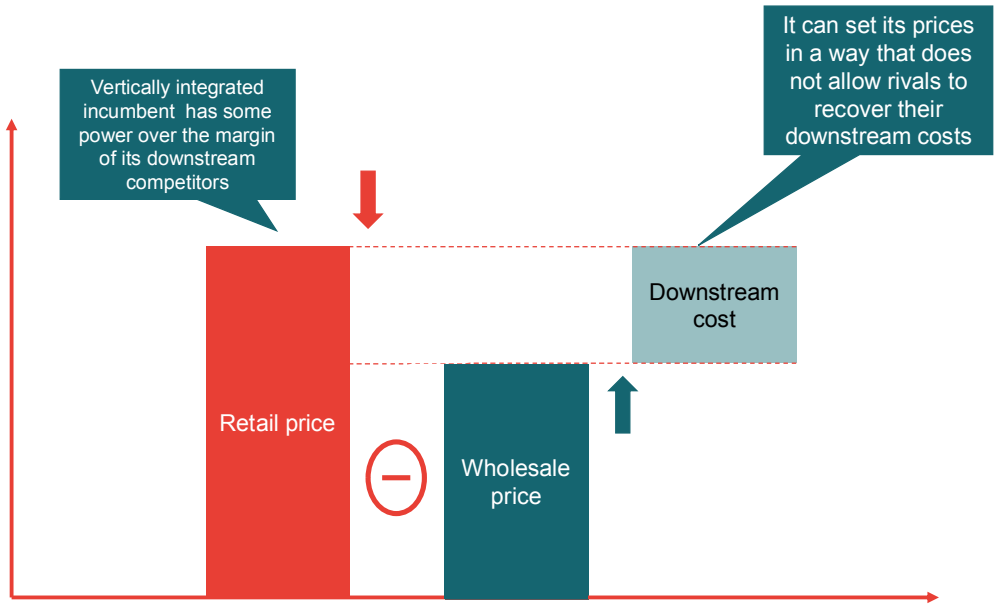
Exhibit 1. Market conditions / structure required for margin squeeze



Source: Frontier Economics
Note: For illustrative purposes only

The issue of margin squeeze arises when an incumbent firm is vertically integrated so it provides upstream (wholesale) services and downstream (retail) services. The wholesale services are essential for the provision of downstream services. If a competitor wants to enter the market to provide retail services, it has to buy the wholesale inputs from the incumbent. To avoid entry, the incumbent can lower its retail margin and increase its wholesale margin so that the potential new entrant cannot operate profitably at the new retail margin. The exhibit below illustrates this concept.

Exhibit 2. Illustration of margin squeeze



Source: Frontier Economics
Note: For illustrative purposes only

In order to assess Affinity Water's non-household retail tariffs, we therefore need to consider whether the margin in each tariff group is sufficient to allow a new entrant to make sustainable profits.

2.2.1 Margin squeeze in the context of PR16

With competition for non-household water retail services to be introduced from April 2017, companies need to ensure that their non-household retail tariffs reflect appropriate margins. As Ofwat has determined that the overall level of the net margin should be 2.5%, companies also need to comply with this upper limit (i.e. not have a total margin above this level). Given Ofwat has set an upper limit on the total margin, an assessment of the appropriate overall margin is outside the scope of this report.

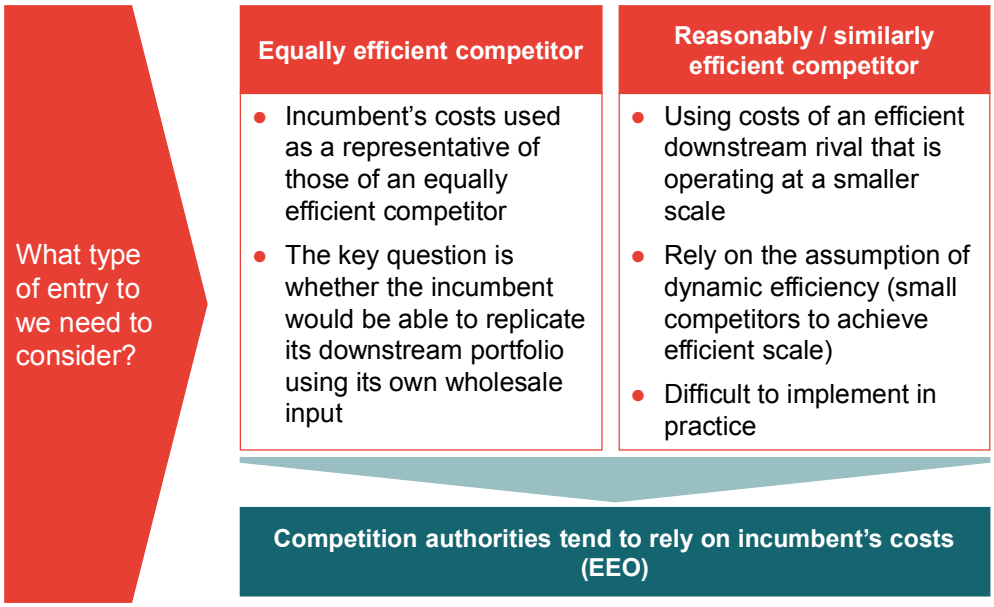
Taking into account that Ofwat has set this upper limit, the issue of margin squeeze in the non-household retail sector could mainly arise in the context of margin allocation across different tariff groups. Companies can allocate the total margin across different tariff groups according to the varying levels of risk that these groups represent, as long as the aggregate margin adds up to 2.5%. The key question for us in assessing Affinity Water's non-household retail tariffs is therefore whether margins have been allocated appropriately across tariff groups.

2.2.2 How do we test for margin squeeze?

The test that is generally applied by competition authorities when considering margin squeeze is that of an equally efficient operator (EEO). The test is whether an EEO is able to enter the market and make sustainable profits. The EEO is generally defined on the basis of the incumbent's costs, meaning that the

test is whether the incumbent is making sufficient profits based on its current cost structure. In addition, competition authorities have considered the concept of a reasonably efficient operator (REO). In this case, the potential entrant may be assumed to be slightly less efficient than the incumbent, e.g. as it does not benefit from the same economies of scale. The exhibit below illustrates both concepts.

Exhibit 3. 'Equally' efficient or 'reasonably / similarly' efficient operator?



Source: Frontier Economics
Note: For illustrative purposes only

2.2.3 How is the margin squeeze test applied in practice?

In order to assess Affinity Water's non-household retail tariffs, we need to establish the types of costs, treatment of costs and form of entry that should be considered.

- **Form of entry** – the margin squeeze test could be based on considering a new entrant that provides the full range of services that the incumbent provides, or a sub-set of those services. Depending on the scope of entry considered, varying degrees of economies of scale may be realised. We consider it appropriate to assess entry on the basis of each tariff group, so a new entrant should be able to sustain sufficient profits if it only provides services for one tariff group.
- **Type of costs to consider** – in theory, the appropriate types of costs to consider are long-run incremental costs (LRIC) as they would reflect an efficient allocation of resources. We have not constructed a detailed estimate of LRIC in the context of non-household retail costs, because for the purposes of this assessment we consider it appropriate to consider average costs incurred by the incumbent. We have done this for the following two reasons.

  - First, average costs are likely to be a reasonable proxy for LRIC, as retail operations in the water sector generally have low fixed costs.
  - Second, we use the incumbent's costs as this is in line with the principle of considering an EEO.
- **Timeframe** – in theory, costs could be considered on a net present value or period-by-period basis. For the purposes of this assessment we consider it appropriate to use the incumbent's costs in the form of annual operating costs (opex), depreciation, and return on capital.

2.2.4 Risk of compliance failure in relation to margin squeeze

In the water sector, the separate price control structure means that there is a wholesale price and a retail price, which together constitute the final price. The risk of a compliance failure on margin squeeze is greatest if there is any tariff band with a negative retail margin.

If the retail margin is positive then the risk of a compliance failure in relation to margin squeeze will decline as the level of margin increases. It should be noted that there will a degree of uncertainty around the allocation of capital and the assessment of risk in determining the appropriate margin for each tariff band. As a result there is a possibility that a competition authority will determine an appropriate level of margin that is different to the company's assessment. Therefore it is not possible to state that the risk of compliance failure is zero if the margin is set at the target level based on a reasonable methodology for allocating costs and risks. Nevertheless, following a clear and robust method is core to minimising the risk and consequence of a compliance failure.

2.3 Excessive pricing

A complaint about excessive pricing could arise if margins are set above the competitive level. In practice there is a (non-trivial) range around the competitive level where the risk of a complaint (of either excessive margin or margin squeeze) being upheld is relatively low. This can be seen from the following extract from the CMA's guidance, which highlights that information on profit levels needs to be interpreted carefully in a competitive assessment:

> *"In practice, a competitive market would be expected to generate significant variations in profit levels between firms and over time as supply and demand conditions change, but with an overall tendency towards levels commensurate with the cost of capital of the firms involved. At particular points in time the profitability of some firms may exceed what might be termed the 'normal' level. There could be several reasons, including cyclical factors, transitory price or other marketing initiatives, and some firms earning higher profits as a result of past innovation, or superior efficiency.*

> *However, a situation where profitability of firms representing a substantial part of the market has exceeded the cost of capital over a sustained period could be an indication of limitations in the competitive process."*[8]

In practice there would need to be evidence of persistent profitability that was materially above the competitive level for a competition authority to conclude that this was clear evidence of excessive pricing. To be at risk of an excessive pricing complaint, margins or profit levels may need to be significantly higher than what might be considered reasonable. In the water sector, it seems unlikely that any company would be able to charge margins at such levels, while complying with Ofwat's total net margin of 2.5%. To do so it would need to be charging excessively low margins (potentially even negative margins) to at least some customers, which may amount to margin squeeze for those customers. On balance therefore, it seems unlikely that there is any real risk of excessive pricing issues in the non-household retail sector.

[8] Competition and Markets Authority, *Guidelines for market investigations: Their role, procedures, assessment and remedies*; April 2013.

3 COST ALLOCATION TO DIFFERENT TARIFF GROUPS

At PR14, Ofwat set cost allowances for the retail cost component of non-household default tariffs based on the average cost to serve (ACTS). In particular, Ofwat calculated the ACTS for each tariff group. Companies' total cost allowance is calculated by multiplying the ACTS (as specified by Ofwat) for each tariff group by the number of customers in each respective tariff group, and then summing those values up across tariff groups.[9] Companies must not set default tariffs that would allow them to earn more than their total allowed cost, but are free to design the method to allocate total costs across tariff groups (within the boundaries of a reasonable cost allocation process). Ofwat has specified that companies' cost allocation methods should be robust and reasonable, and based on appropriate cost drivers. Companies are also required to justify any changes made to the approach, relative to that which was used at PR14.

For retail margins to be sufficient for an EEO to enter the market for each tariff group, Affinity Water (or any other incumbent firm) will need to have allocated an appropriate amount of retail costs to each tariff group. If the costs allocated to one tariff group are too low, a potential new entrant may not be able to sustain sufficient profits at the cost level implied by Affinity Water.

Affinity Water has asked us to assess the cost allocation approach that it has used to allocate costs across tariff groups. This section includes:

- a summary of the principles of cost allocation;
- an overview of the cost allocation process in practice;
- our assessment of Affinity Water's cost allocation process; and
- the conclusion of our assessment.

3.1 Principles of cost allocation

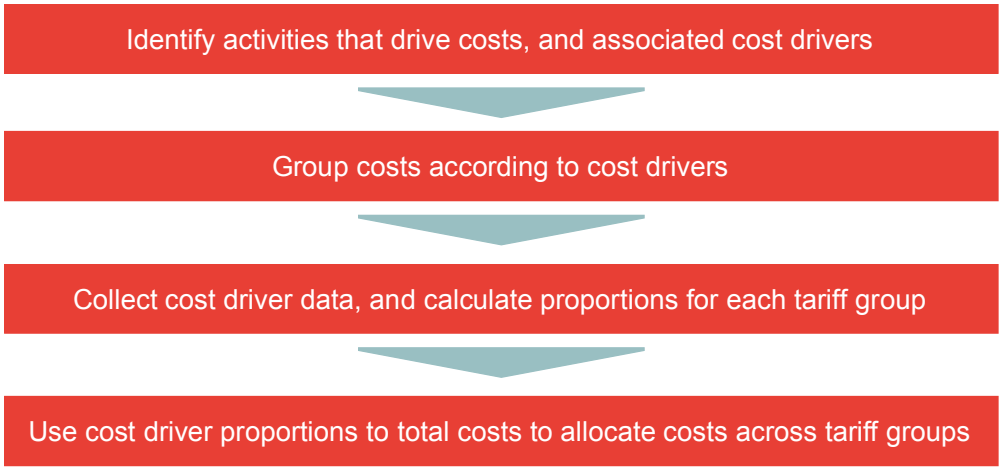
Cost allocation is the process of apportioning a company's costs to the specific goods or services that are produced. Costs can be either:

- **direct** – i.e. they are directly attributable, in the sense that the elements relating to each of the individual goods or services they help to produce can be separately identified; or
- **indirect** – i.e. they cannot be directly attributed and therefore must be linked to the specific goods and services they help to produce on a more indirect basis, using cost drivers.

The exhibit below explains the steps typically used to allocate indirect costs, using appropriate cost drivers.

[9] Ofwat (December 2014): Setting price controls for 2015-20, Final price control determination notice: company-specific appendix – Affinity Water, p. 36

Exhibit 4. Allocation of indirect costs



Source: Frontier Economics

The cost drivers should closely represent the activities underlying the costs. This will ensure that more of a particular cost is allocated to those goods and services which are associated with a higher value of the underlying cost driver.

Although it may be possible to identify the most appropriate cost drivers, there is an issue of data availability. If volume data for those drivers is not available, it may be necessary to use alternative cost drivers which are slightly less cost reflective. Alternatively, the company may decide to collect different data in order to ensure that costs are allocated in the most appropriate manner.

3.2 Overview of the cost allocation process in practice

The exhibit below provides an illustration of the cost allocation exercise, focussing on billing costs as an example.

Exhibit 5. Example of cost allocation to different tariff groups for billing

Cost item	Cost driver	Allocation to tariff groups			
Billing £100,000	**Number of bills** 150,000	Tariff group	Bills	% bills	Allocated
		1	20,000	10%	£10,000
		2	45,000	23%	£22,500
		3	6,000	3%	£3,000
		4	10,000	5%	£5,000
		Etc.	…	…	…
		Total	150,000	100%	£100,000

Source: Frontier Economics
Note: For illustrative purposes only

This exhibit shows that cost items are allocated across tariff groups based on the split of the chosen cost driver across these tariff groups. For example, if the cost driver for billing costs is chosen as the number of bills, and one tariff group represents 10% of all the bills that a company sends out, this group would be allocated 10% of total billing costs.

3.3 Our assessment of Affinity Water's cost allocation process

At PR14 Ofwat provided guidance to companies on the cost drivers that should be used to allocate retail costs across tariff groups by setting minimum requirements.[10] In particular, Ofwat set cost drivers for six cost items that it considered reflected the minimum required level of cost reflectivity for those cost items. Ofwat stated that it encourages "companies to use more cost-reflective approaches (directly attributing costs wherever possible) than those set out"[11] in its minimum requirements. Ofwat did not provide any guidance on what other more cost reflective cost drivers could be used for those six cost items, or what cost drivers companies should use for other cost items. Ofwat more generally re-iterated that compliance with its minimum requirements would not necessarily be sufficient to ensure that the cost allocation approach overall was reasonable from a legal perspective. However, prior to setting these minimum requirements, Ofwat had provided more general guidance on the cost drivers that it thought were appropriate to use to allocate non-household retail costs across tariff groups.

The exhibit below shows the cost drivers that Ofwat requires incumbent companies to use for the cost allocation of six cost categories.

Exhibit 6. Minimum requirement cost drivers

Cost type	Cost driver
Billing	Number of bills raised
Contacts	Customer numbers
Debt management	Customer numbers
Doubtful debt	Directly attributable
Meter reading	Number of meter reads
Depreciation	Proportioned in line with billing and contact costs

Source: Ofwat (2014), Setting price controls for 2015-20 – guidance for companies on producing default tariffs, Table 4, p. 23

We have compared the cost drivers used by Affinity Water in its allocation of retail costs to those that were identified by Ofwat in its minimum requirements. We understand that Ofwat's guidance on cost drivers is such that companies could only deviate from this guidance if they use more cost reflective cost drivers.

[10] Ofwat (2014), Setting price controls for 2015-20 – guidance for companies on producing default tariffs, section 5.1

[11] Ofwat (2014), Setting price controls for 2015-20 – guidance for companies on producing default tariffs, section 5.1, p. 22

Affinity Water's cost allocation approach is not inconsistent with this guidance. We note that Affinity Water does not include any depreciation in its non-household retail cost allocation, so this part of the cost allocation is limited to the other five cost items in Exhibit 6. We have the following comments in relation to Affinity Water's cost allocation approach for these five cost items.

- Affinity Water uses Ofwat's specified cost driver for the following cost items: billing costs; debt management; meter reading; non-network enquiries and complaints; and network enquiries and complaints.
- Doubtful debt is allocated on the basis of customer debt data. While Affinity extrapolated from available debt data to address unavailable data for some customers, the approach is reasonable and consistent with Ofwat's guidance.
- Where customer numbers is the specified cost driver, Affinity Water has used the number of customers as the cost driver for the small and medium tariff groups, but the number of meters for the larger tariff group. We understand that Affinity Water has used this approach because some customers in the larger tariff group have more than one meter at each property, and Affinity Water considers it would be more cost reflective to take account of the number of meters at each property, as it considers that the number of meters is a more robust driver of these costs for the larger tariff groups.

Affinity Water is aware of the ways in which it has deviated from the Ofwat guidance, and considers that it has used a reasonable approach overall. On the basis of this, we conclude that Affinity Water is generally consistent with the Ofwat guidance, and that it has only deviated from the guidance where it believes that it has a good reason to do so.

As Ofwat has highlighted that companies should also ensure their cost allocation approaches are reasonable in general (i.e. in addition to following the minimum requirements), we have also reviewed the other cost drivers that Affinity Water has used. As a starting point, we have compared the cost drivers that Affinity Water has used to the longer list of cost drivers that Ofwat suggested companies should use earlier in the PR14 process.[12] Our assessment shows that Affinity Water's cost allocation approach is generally consistent with Ofwat's earlier guidance on the use of cost drivers. We have a couple of comments in relation to this part of Affinity Water's cost allocation approach.

- As we noted above, where data on customer numbers is the cost driver, Affinity Water uses customer numbers for the small and medium tariff groups and the number of meters for the large tariff group.
- Affinity Water uses the number of customers to allocate other direct costs, which is in-line with Ofwat's guidance on suitable cost drivers, except for the fact that Affinity Water uses the number of meters for the large tariff group, as noted above. Having carried out this allocation process, Affinity Water then applies an adjustment to the costs that have been allocated to the three tariff groups. This adjustment reduces the costs that are allocated to the small tariff group, and increases the level of costs allocated to the medium and large

[12] Ofwat (2014), Default tariff design workshop (p. 29 – 30), available at: http://www.ofwat.gov.uk/wp-content/uploads/2016/01/prs_pre20140318pr14defaulttariff.pdf

tariff groups. We understand that Affinity Water has carried out this adjustment because the largest 300 accounts receive account management services, whereas the smaller customers do not. The adjustment deducts £150,000 from the small tariff group, which reflects key account management costs, and then spreads this cost over the medium and large tariff bands based on the number of customers that receive account management services in these tariff groups. We understand that Affinity Water has made this adjustment to improve the cost reflectivity of its allocation process.

3.4 Summary of our assessment

Overall, we find that Affinity Water's allocation of costs is generally consistent with Ofwat's minimum requirements for the use of certain cost drivers. Affinity Water is aware of the ways in which it has deviated from the Ofwat guidance, and has only deviated from the guidance where it believes that it has a good reason to do so. We also note that Affinity Water's other cost drivers are generally consistent with Ofwat's earlier guidance on cost drivers. Again, where Affinity Water has deviated from Ofwat's earlier guidance, it has done so to attempt to make its approach more cost reflective.

4 MARGIN ALLOCATION TO DIFFERENT TARIFF GROUPS

Ofwat has set an upper limit on the total net margin that companies can recover from non-household retail customers. This means that the overall margin that companies can recover from all customers must not exceed 2.5% of total costs. Companies therefore need to allocate this net margin across tariff groups in a way that is reasonable, and consistent with competition law principles (particularly those in relation to margin squeeze). The question for our assessment of Affinity Water's default tariffs is therefore not in relation to the appropriate total margin, but is focused instead on the reasonableness of the allocation of the 2.5% net margin across tariff groups.

Ofwat in addition has indicated that it will set uniform default tariff caps for medium and large volume tariff groups, and has provided its initial expectation of the level of these caps in its final statement of method for PR16. Our assessment therefore also needs to consider whether Affinity Water's proposed margins would allow for consistency with Ofwat's expected level of uniform default tariff caps.

In this section we first provide an overview of the margin allocation process adopted by Affinity Water, and then our assessment of that allocation process.

This section includes:

- a summary of the principles of margin allocation;
- an overview of the margin allocation process in practice;
- our assessment of Affinity Water's margin allocation process; and
- the conclusion of our assessment.

4.1 Principles of net margin allocation

We consider that the following principles are particularly important when designing a net margin allocation methodology.

- No undue discrimination between customers, between or within tariff groups – net margin allocation should reflect the difference in risks across customers and the opportunity cost of capital required to deal with these risks.
- An efficient retailer could enter and compete fairly – that is, the margin offered in each tariff group should be sufficient to enable an efficient entrant to earn a reasonable return.
- The allocation method should be proportionate and transparent.

Ofwat recognised in its PR14 guidance on setting default tariffs for non-household retail customers that it may be appropriate to set different levels of net margin across different customers.

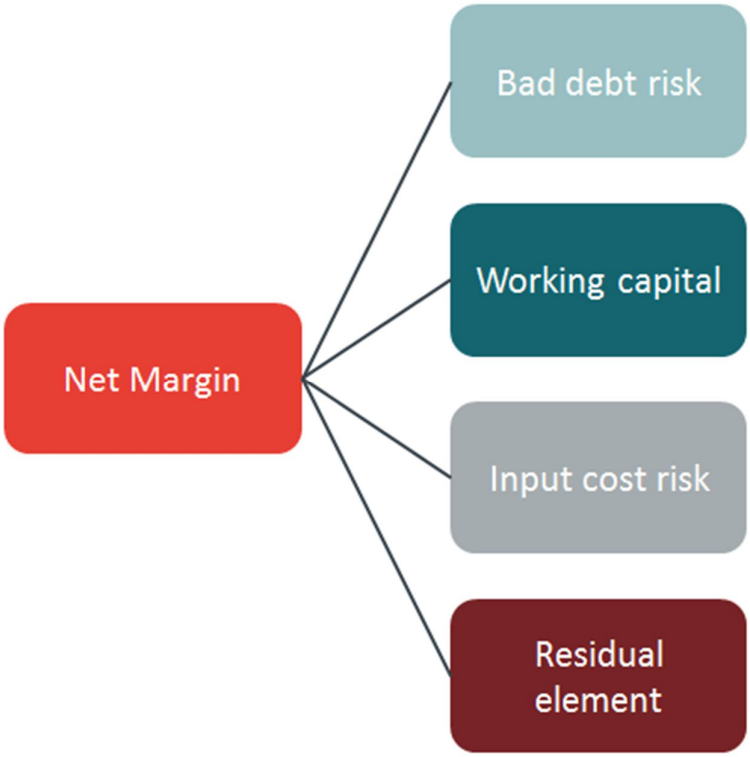
"We would expect companies to consider whether it would be appropriate to have different net margins for different tariff bands, as there may be different relevant financing costs and risks associated with different customer types."[13]

4.2 Overview of the margin allocation process in practice

Ofwat has determined that a total net margin of 2.5% of total costs (wholesale plus retail) at the company-level should be applied, and that this total margin can be allocated in varying proportions across different tariff groups. The total net margin for Affinity Water amounts to around £1.51m in 2017/18 (based on projected wholesale tariffs).

The Exhibit below illustrates that Affinity Water's total net margin for each tariff group is made up of four components.

Exhibit 7. Overview of approach to allocating the net margin

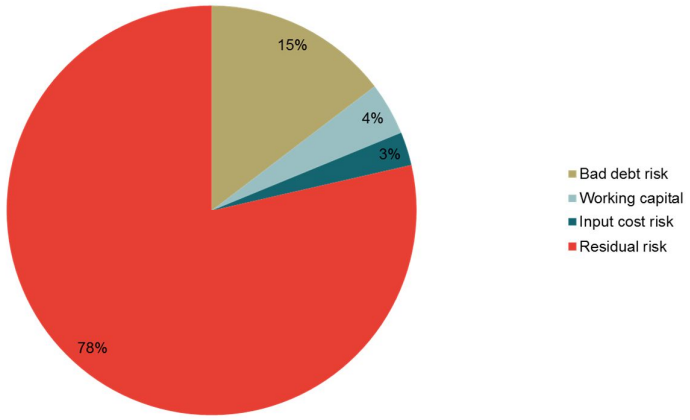


Source: Frontier Economics

We note that the most significant input to the calculation is the residual element (that covers profit, competition margin and tax), see Exhibit below.

[13] Ofwat, Setting price controls for 2015-20 – guidance for companies on producing default tariffs, April 2014.

Exhibit 8. Split of net margin between four components



Source: Frontier Economics
Note: Based on Affinity Water calculations

The split of the net margin between the four components is as follows:

- the bad debt risk is around £220,000;
- working capital requirements are around £63,000;
- input cost risk is calculated to be around £40,000; and
- the residual element, which is deemed to reflect profit, competition margin and tax, amounts to around £1.2m.

4.3 Our assessment of Affinity Water's margin allocation process

We provide below our assessment of Affinity Water's approach to allocating the net margin to tariff groups. We have assessed the approach used for allocating the four components in turn.

4.3.1 Assessment of the approach used to allocate bad debt risk

Affinity Water has estimated the amount of bad debt risk it faces, and what a reasonable return on that risk would be. First, Affinity Water estimates the risk around doubtful debt costs and debt management costs. It then makes an assumption on what would be a reasonable return for it to earn on this risk that it faces. Affinity Water finally allocates this return on bad debt risk across its three tariff groups. We draw comment on the three elements of this process below.

- **The assumed level of risk.** Affinity Water has defined bad debt risk as the risk it faces from doubtful debt and debt management costs being above the levels that are reflected in its business plan. Affinity Water has estimated bad

debt risk as two standard deviations away from mean costs, based on the last five years of cost data in its regulatory accounts. It has made this assumption for bad debt risk in total, i.e. it has not assumed that there is any particular additional risk for any one tariff group. It is challenging to estimate the risk of future bad debt, and in the absence of further information, we do not consider that Affinity Water's approach is unreasonable. We further note that this element of the margin amounts to around 15% of the total margin, which is a relatively small amount. We consider that this is an appropriate order of magnitude to be allocated to bad debt risk, as there is limited information on the scale of this risk, and so it is reasonable for Affinity Water to have allocated a relatively small proportion of the overall margin allowance.

- **Assumed return on bad debt risk.** Affinity Water has assumed that it would be appropriate for it to earn a return on the bad debt risk that it faces. It has assumed that a reasonable level for this return would be 10%. To infer what a reasonable range for the WACC of a retail business might be, we reviewed regulatory precedent on returns, in particular we considered:
  - the WACC allowed by Ofwat for the appointed business of 3.74% in real vanilla terms, which can be translated to 7.3% in pre-tax nominal terms;[14]
  - the recent regulatory precedent set by the CMA in its Energy Market Investigation where it estimated the WACC of a stand-alone energy retailer to be 10% in pre-tax nominal form;[15] and
  - the fact that regulators in other jurisdictions have estimated the WACC of energy retailers to be slightly higher than 10% in pre-tax nominal forms.[16]

  Given that the WACC for a standalone retail business is likely to be higher than the allowed WACC for the appointed business, due to the asset-light nature of the business and the operational risks associated with it, we consider that a reasonable range for the WACC of the retail business is 7% to 15%. As Affinity Water's assumed return falls within what we consider to be a reasonable range, we consider that its assumption appears reasonable.
- **Allocation across tariff groups.** We note that Affinity Water has allocated its assumed return on bad debt risk across tariff groups using its allocation of doubtful debt and debt management costs across tariff groups. This approach effectively allocates bad debt risk across tariff groups using the cost drivers from the cost allocation process. The reasonableness of this approach therefore depends on the cost drivers that were used in the cost allocation process. The allocations of debt management costs and doubtful debt costs are in-line with Ofwat's proposed cost drivers. Overall, we therefore consider this approach to allocate bad debt risk seems reasonable.

Overall, we consider that Affinity Water's approach to allocating bad debt risk across tariff groups is reasonable.

[14] The allowed WACC of 3.74% in the Final Determination is in vanilla real terms.

[15] CMA (July 2015), Provisional Findings in the Energy Market Investigation, Appendix 10.4 Cost of capital

[16] See, for example, IPART's retail energy price control for New South Wales, Australia.

4.3.2 Assessment of the approach used to allocate working capital requirements

For each tariff group, Affinity Water has estimated working capital requirements, and multiplied the total requirement by its assumed return on working capital.

For wholesale revenue, Affinity Water has calculated the average number of customer debtor days from its billing data and its standard payment terms for non-household customers. For wholesale creditor days, Affinity Water has used the current recommendation by Open Water of 1.5 months (or 45.66 days).[17]

Summing customer debtor days and wholesale creditor days gives the net required days for credit relating to wholesale revenue. The corresponding net days of credit requirements are then multiplied by the wholesale charge for each tariff group to estimate working capital requirements.

Affinity Water has also calculated the working capital requirements for its retail business. This is calculated in a similar way, by considering retail costs and customer debtor days (the same as those used to calculate the working capital requirements for the wholesale business).

The total working capital requirements (i.e. for the wholesale and retail parts of the business) are then multiplied by Affinity Water's assumed return on capital. Affinity Water has assumed that the return on capital is 3.6%. We consider this level of assumed return to be reasonable, given that working capital financing is lower risk than overall retail activities and can be approximated by an estimate of the cost of borrowing.

Overall, we consider the approach to be reasonable as it is based on historical data for customer debtor days and recommendations by Open Water.

4.3.3 Assessment of the approach used to allocate input cost risk

Affinity Water has also estimated the level of cost risk that it faces. It has identified to key input cost risks:

- labour cost inflation; and
- the cost of contingent capital.

We discuss each of these two elements in turn.

Labour cost inflation

Affinity Water has reflected cost risk for each tariff group in the margin. The rationale for this is to account for the risk of unavoidable increases in labour costs, such as inflation. We consider the justification for including cost risk to be reasonable, as increased cost risk should be reflected in the margin since Ofwat has not allowed for any cost risk (from labour cost inflation or other risks) in the average cost to serve.

Affinity Water has calculated this risk as follows:

[17] Open Water (May 2015), Wholesale-Retail Code Part 2: Business terms, section 9.2.5. We recognise that these terms are still under consultation.

- it has determined which cost items are labour intensive;
- it has made assumptions on labour cost inflation, and applied these to current costs to estimate the scale of the total risk related to labour cost inflation; and
- has applied an assumed return to calculated total cost risk.

Overall, we consider that this is a reasonable approach for Affinity Water to adopt. We understand that the labour cost inflation rates are based on Affinity Water's current pay deals, which seems appropriate, and Affinity Water has adopted an assumed return of 10%, which we consider to be reasonable (as explained above).

Cost of contingent capital

Affinity Water estimates the cost of contingent capital for each tariff group. This allows for the cost of customers switching to competitors. It is assumed that Affinity Water will continue to incur fixed retails costs[18] for customers that have switched away for an additional year after switching. It is further assumed that 12.5% of customers will switch (or churn) to another retailer. As there is considerable uncertainty around the magnitude of switching after market opening, we consider this judgement to be reasonable.

Affinity Water has assumed that the return on this risk is 10%, which we consider to be reasonable, for the reasons set out above.

4.3.4 Assessment of the approach used to allocate the residual return

Allocating the residual margin amounts to allocating additional margin to customers' bills above the margin that is allocated on the basis of the other three elements of the margin. There are three main items covered by this additional margin.

- **Competitive margin.** The three components of the margin excluding the residual element represent the margin that might be set in a competitive market (i.e. fully reflective of costs). It could be logical to set default tariffs at a level that includes an uplift relative to this competitive level, to allow for and to help generate competition in a newly competitive market.
- **Other risks.** There will be other risks that Affinity Water incurs in operating its retail business, that are not reflected in the three key components of the margin. These residual risks may be unidentified or not quantified, and they could reflect, for example, the risks associated with customer complaints or disputes, employment risks, or risks associated with failures by suppliers. The margin represents the profit that it is reasonable for Affinity Water to earn as it has borne these risks.

In order to assess Affinity Water's approach to allocating the residual margin, we have considered what other methods could be used to do this. We have identified the following three approaches that could be used to allocate the residual margin.

[18] Local Authority rates, other business activities and other direct costs.

- Option 1: residual margin set as an equal proportion of total costs, for all tariff bands.
- Option 2: residual margin set in equal absolute terms for all tariff bands.
- Option 3: residual margin set as an equal proportion of retail costs, for all tariff bands.

We note that Affinity Water has allocated the residual margin on the basis of total costs.

In terms of the competitive margin, there is no clear economic reason to allocate this to tariff groups in a particular way. However, it does not seem unreasonable to allocate this across the tariff groups in an equi-proportional way, based on total costs.

In terms of allocating the other risks across customers, again there is no clearly superior approach to take. However, it seems likely that these risks could be driven by the scale of retail costs, or the scale of total costs. For example, one potential risk is the chance that an incumbent water company experiences an employment law issue relating to one of its staff working in the retail arm of its business. This risk is likely to be proportional to the scale of Affinity Water's retail business, and therefore it could be reasonable to allocate this risk across tariff groups on the basis of retail costs. Other risks are likely to be proportional to the scale of total costs.

Overall, we consider that allocating the residual margin on the basis of total costs seems appropriate and reasonable.

4.4 Summary of Affinity Water's proposed margins for PR16

The exhibit below shows the proposed net margins for PR16. We note that the tariff groups selected by Affinity Water are consistent with Ofwat's definition of medium and large customers.

Exhibit 9. Affinity Water's proposed net margins

Tariff groups	2017/18	2018/19	2019/20
0-5Ml including assessed and unmeasured RV customers	2.94%	2.94%	2.94%
5-50Ml	2.16%	2.16%	2.16%
Over 50Ml including special agreements	1.97%	1.97%	1.97%

Source: Affinity Water analysis

The table below shows the gross margins that Affinity Water is currently proposing.

Exhibit 10. Affinity Water's proposed gross margins

Tariff groups	2017/18	2018/19	2019/20
0-5Ml including assessed and unmeasured RV customers	15.87%	15.32%	14.72%
5-50Ml	4.25%	4.17%	4.07%
Over 50Ml including special agreements	3.27%	3.22%	3.16%

Source: Affinity Water

This table shows that Affinity Water's gross margins are consistent with the level of the uniform gross margin cap for medium users (5-50Ml) that Ofwat has indicated it is likely to use at PR16. For the large user group (50Ml) the default tariffs imply a gross margin that is slightly higher than the level indicated by Ofwat.

5 CONCLUSION

We employed an assessment framework based on fundamental economic principles relating to the design of a default tariff structure in a retail market newly open to competition. Our assessment considered whether the proposed default tariffs are cost-reflective and are likely to enable fair access to competition for different segments of the non-household market. Furthermore, our assessment framework paid attention to the principles of competition law and Ofwat's final statement of method for PR16, as well as the general acceptability of the tariff structure.

Overall we find that Affinity Water's approach to determining non-household retail default tariffs is reasonable. We find that the approach taken by to allocate costs and margins to the default tariffs is appropriately evidence based, and reasonable. We provide below a summary of our conclusions.

- The allocation of costs uses appropriate drivers. In the cases where Affinity Water has used a driver that differs from Ofwat's minimum guidance it has done so on a considered view that the chosen driver is more cost reflective.
- The margin allocation is appropriately evidence based and appears reasonable.
- Our view therefore is that the resulting approach is consistent with competition law principles, in particular the proposed default tariffs are also consistent with licence condition E.
- In addition, the consistent application of these default tariffs by Affinity Water in our view would be consistent with the company's obligations under condition R (which requires it to show no undue discrimination between its customers and those of other licensed water suppliers) insofar as it relates to the structure of charges.
- We have not identified any issues with the way that the outputs from Affinity Water's workings have been transposed in to the Ofwat data tables.
- We note that Affinity Water's proposed default tariffs are consistent with the level of the uniform gross margin cap for medium users (5-50Ml) that Ofwat has indicated it is likely to use at PR16. For the large user group (>50Ml) the default tariffs imply a gross margin that is slightly higher than the level indicated by Ofwat.

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