
Appendix: Per Capita Consumption

YKY-PR24-DDR-44-OC-PCC-appendix



YorkshireWater

Contents

1. Executive summary	3
2. Our PCC performance to date and Ofwat’s challenge in the DD	3
2.1 YWS’ targets	4

3. Ambition: Ofwat’s proposed performance commitment level for AMP8 is undeliverable	4
3.1 Ofwat’s AMP8 target is undeliverable and is out of line with Ofwat’s targets for other companies	4
3.2 Ofwat’s AMP8 target is based on an erroneous baseline.	6

4. WRMP: Ofwat’s proposed performance commitment level is inconsistent with our WRMP targets	7
---	----------

5. Ofwat’s assessment of COVID impacts.	9
--	----------

6. Cost: We have never been sufficiently funded to hit any of the proposed PCC targets.	9
6.1 Funding gap	9
6.2 Approach to unit costs	10
6.3 Level of cost challenge.	11

7. Risk/reward balance	11
-------------------------------	-----------

1. Executive summary

Yorkshire Water recognises the importance of effective demand management, including through reductions in per capita consumption (PCC). We are proud to have consistently been at the forefront of PCC performance over the previous two AMPs, as well as achieving material rates of meter adoption in Yorkshire. Yorkshire Waters' 2025 outturn forecast is 124.9 l/h/d, which is significantly lower than the industry average of 145 l/h/d. Our ambition for PR24 is to further drive efficient use of water, particularly amongst those of customers whose behaviours will be harder to change, consistent with the goals of its long-term WRMP plan as agreed with the EA and Defra. Defra has now provided permission to publish the YWS WRMP24, with the PCC target of 120.5 l/h/d on a 3-year rolling basis.

It is in that context that Yorkshire Water struggles to make sense of the decisions in Ofwat's DD relating to the performance commitment levels and ODI regime for PCC. YWS forecasts it will be in significant penalty (around £35-40m) by the end of AMP8 *in spite of its frontier performance*. It cannot be the aim of an incentives-based system of regulation that the firms which deliver industry-leading outcomes are penalised in this way.

The forecast penalty arises because the PCC targets applied in Ofwat's DD are unrealistically over-stretching, such that they are undeliverable. We strongly believe this is driven by three key factors which Ofwat hasn't adequately taken into account. First, the PR24 targets are based on an erroneous baseline calculation by Ofwat in PR19 which means the error we have identified (and repeatedly highlighted to Ofwat) persists. Second, Ofwat doesn't appear to take into account the challenge for frontier companies in decreasing PCC at the same rate as lower-performing companies. Finally, we don't believe Ofwat has appropriately taken into account the structural impact of COVID on water demand in Yorkshire.

Yorkshire Water believes the performance commitment levels it proposed in its business plan are ambitious and strive for a level of stretch that is consistent with the goals of our long-term WRMP plan. This is obtainable if YWS undertakes all of the significant activities it proposes over AMP8. However, this level of activity will only be possible if YWS is sufficiently funded to undertake those activities. As a frontier company, reaching the next level in PCC performance will be more costly as it will need to change the behaviour of those customers who have shown themselves to be least inclined to change. As a result, YWS requests that Ofwat increase the enhancement funding allowed to YWS in its DD to allow it the chance to achieve its stretching frontier targets.

2. Our PCC performance to date and Ofwat's challenge in the DD

PCC is a challenging metric because efforts to decrease PCC depend not only on water company activities, but also on nationwide activities such as government initiatives on the labelling of white goods, wider environmental legislation in relation to the water efficiency of new build homes and those undertaken by Ofwat's Water Efficiency Fund (the aims and activities of which YWS supports). PCC is a metric that requires our customers materially to change their behaviours to use water efficiently and have a greater understanding of their water use. As a result of both of these issues, PCC outcomes are only partially within the control of water companies.

Within this context, YWS is already undertaking a significant number of activities to encourage its customers to reduce PCC. YWS-specific initiatives focus on, *inter alia*, 'Smart Water' customer water efficiency home audits and water saving device retrofits; water efficiency incentives; customer engagement through education programmes (both online and in-person);² rainwater harvesting; and grey water recycling retrofits for households. YWS has been undertaking these activities throughout AMP7 and will continue them into AMP8.

2.1 YWS' targets

PR19

Ofwat's final determination for PR19 set an exceedingly stretching PCC target of **~116.8 l/h/d** for the end of AMP7, which was significantly higher than the level that YWS submitted in its PR19 business plan. Despite YWS consistently explaining that YWS's PCC performance commitment level proposed by Ofwat for the end of AMP7 should be in the ~120.1-120.5 l/h/d range, Ofwat's final determination for PR19 set a target of ~116.8 l/h/d. YWS believes this OFWAT target has occurred due to an erroneous calculation at PR19 determination, from applying a 8.9% reduction to a post leakage convergence PCC baseline of 128.2l/h/d. The 8.9% reduction only applied to the pre convergence baseline of 132l/h/d. As Ofwat is aware, YWS has serious concerns with the methodology used by OFWAT to apply a PCL against a 2019/20 baseline 128.2 l/h/d3.

Ofwat's approach at PR19 to setting YWS' PCC levels has had serious consequences on YWS' ability to meet those targets throughout AMP7, in spite of YWS' continuing activities in this area and YWS' consistent position in the upper quartile of the industry on a PC where there should be little divergence between companies throughout the industry. Despite this, YWS still remained upper quartile for AMP7 (and industry leading in AMP6) despite PCC historically being a particularly challenging area for the industry to address.

PR24

YWS' business plan proposes a varied programme of activities to achieve both a step change in water use and YWS' proposed PCC targets for AMP8. YWS believes these activities are deliverable and represent good value for money.⁴ PCC has also been directly impacted by changes in customer water usage in the intervening years as a result of the COVID-19 pandemic (see **Section 5** below for further details). Despite this, YWS' 2025 outturn forecast is 124.9 l/h/d, which is significantly lower than the industry average of 145 l/h/d.⁵

YWS has set its PCC targets with this outturn value in mind – in its business plan, YWS has proposed a stretching target of 120.5 l/h/d for the end of AMP8 (119.3 l/h/d in in-year terms). In spite of YWS demonstrating its good performance and presenting a stretching target in its business plan, Ofwat has proposed an untenable target of 114.5 l/h/d for the end of AMP8. This represents an **~8.3%** reduction by the end of AMP8 against YWS' 2025 outturn forecast.

Funding

In order to achieve its PCC targets, the only direct funding that YWS has received is £400k per annum in base funding, which is used for communications across the Yorkshire region to sustain low PCC, to target areas of drought and capacity constraints, and undertake modelling PCC calculations (i.e., monitoring unmetered customer consumption using a "domestic metered consumption" cohort).

3. Ambition: Ofwat's proposed performance commitment level for AMP8 is undeliverable

3.1 Ofwat's AMP8 target is undeliverable and is out of line with Ofwat's targets for other companies

Based on AMP7 outturn forecasts, Ofwat expects YWS to undertake activities throughout AMP8 which result in the average reduction per person served by Yorkshire Water of water they use from current levels, by 11.2 litres per day in real terms by the end of the AMP ("in year" 24/25 projection 125.2l/h/d, to "in year" 29/30 post covid adjustment of 114.0l/h/d) .

This reduction to 114.0 “in year” l/h/d by the end of AMP8 would be unprecedented: **no company has ever achieved such a reduction of 11.2 l/h/d over an AMP**. From 2017/18 to 2023/24 (using in-year terms), the industry has averaged an improvement of 1.4 l/h/d. This figure shows in context how stretching YWS’ claim in its business plan is: YWS intended to achieve a total improvement of 5.9 l/h/d over AMP8 (i.e., from 125.2 l/h/d in year five of AMP7 to 119.3 l/h/d in year five of AMP8), which still far exceeds the average industry improvement levels of recent years.

As noted by Ofwat in its data tables, YWS’ proposed PCC target for 2029/30 would have left YWS as the second-highest performer in the industry at the end of AMP8, behind Southern Water, according to the position set out in companies’ business plans (see the “Company Proposed 2029/30 Annual Average PCC” column, **Figure 3-1**, below). Even assuming Ofwat continues with all of its other interventions against other companies (see the “Selected Level of Stretch” column, **Figure 3-1**, below), YWS’ proposed performance commitment level in its business plan would **still** represent the second highest performance in the industry behind Southern Water – and yet Ofwat has intervened to make the PC almost twice as stretching. This performance expectation is despite Yorkshire Water not being specified as Water Stressed and the WRMP not requiring such a high level of PCC demand reduction.

Figure 3-1 Ofwat, PR24 Performance Commitment Model, per capita consumption, sheet “Analysis_Stretch”. Note all figures presented are in-year figures.

Selection of 2029-30 position							
	Company	Company Proposed 2029/30 Annual Average PCC (l/p/d)	rWRMP value (l/p/d)	Validated Enhancement Minimum Stretch (l/p/d)	Linear Delivery of PR19 PCL Check (l/p/d)	Selected Level of Stretch (l/p/d)	Alignment with company proposals
	Units	l/p/d	l/p/d	l/p/d	l/p/d	l/p/d	Y/N
	ANH	123.5	123.5	126.3	125.50	123.50	Y
	WSH	133	143.0	131.2	134.20	131.20	N
	HDD	131.2	131.2	131.1	125.60	125.60	N
	NES	-	-	-	-	-	-
	SVE	121.2	121.2	124.2	127.80	121.20	Y
	SBB	-	-	-	-	-	-
	SRN	118.5	120.9	119.3	116.50	116.50	N
	TMS	133.8	133.8	135.0	134.50	133.80	Y
NWT	UUW	129.1	129.4	128.9	132.60	128.90	N
	WSX	133.5	131.2	126.9	136.30	126.90	N
	YKY	119.3	119.3	121.2	114.00	114.00	N
	AFW	128	128.0	124.1	130.00	124.10	N
	PRT	141	141.0	135.2	137.60	135.20	N
	SEW	131.5	125.8	130.9	133.90	125.80	N
	SSC	-	-	-	-	-	-
	SES	127	127.0	133.3	136.80	127.00	Y
	SWB	128.9	132.9	129.5	134.60	128.90	Y
	BRL	140.5	145.3	141.7	137.20	137.20	N
NES	NNE	134	134.0	141.8	140.70	134.00	Y
NES	ESK	133.3	133.3	136.7	140.70	133.30	Y
SSC	SST	129.8	N/A	140.3	126.90	126.90	N
SSC	CAM	121.5	122.1	127.5	124.20	121.50	Y

As noted in **Section 6** below, Ofwat asks YWS to achieve this reduction after applying an 79% haircut to its water efficiency enhancement claim of £32.4m. This leaves YWS with only £6.9m

over AMP8. When separating non-household (**NHH**) demand from PCC, the result is Yorkshire Water's enhancement claim for PCC of £10.2m reduced to £3.69m by Ofwat's DD, to achieve the single largest ever PCC reduction in the industry in the context of already being a high performer.

Ofwat's AMP8 target fails to properly take account of the challenges of further PCC reduction for a relatively water efficient customer base

As a result of the activities that YWS has already been undertaking over the past several AMPs, YWS is at the forefront of the industry as one of the best performers on PCC, consistently in the upper quartile throughout AMP7 and industry leading during AMP6. **As Ofwat acknowledged at PR19 in relation to other common PCs (for example, leakage), it is significantly more difficult for a company at the forefront of the industry to achieve the same or similar percentage decreases in performance than for companies in the lower quartile.** It follows that blanket industry-wide reductions in absolute terms, which would represent a higher percentage reduction for companies at or near the frontier / in the upper quartile, are inappropriate.

This is why comparing targets on percentage terms where many companies have comparatively much worse performance does not reflect the difficulty of better performers of achieving those targets: a percentage reduction of 2.5% for one company with good comparative performance may represent the same challenge as a 5% reduction does for a company with less good performance. The reduction should not be expected to be linear. Rather, each percentage point becomes more difficult to achieve, in part because it depends on the actions of consumers, rather than of the companies.

In summary, YWS' frontier position means that PCC reductions are significantly more challenging. As PCC falls, costs increase to achieve incremental returns (see Section 6, below). To achieve material results, in some cases, fundamental changes to customer behaviours are required (e.g., moving from baths to showers; greywater recycling; opting to spend on and fix a longstanding leak, and so on). This can also require high, upfront customer household investment, over which YWS does not have any control.

3.2 Ofwat's AMP8 target is based on an erroneous baseline.

Ofwat's reliance on an erroneous baseline, and its decision not to re-baseline, has resulted in an important error in Ofwat's modelling and has contributed to the overly stretching target being imposed on YWS, which is on top of an already stretching target. This ambition is untenable.

Ahead of AMP7, new methodologies were announced for the calculation of leakage, to increase industry wide consistency in the reporting of leakage and wider elements of the water balance (i.e., PCC and NHH demand). Whilst minor elements of the PCC calculation changed, they largely offset each other. The major reason for the change to the 2019/20 baseline was a reduction in unaccounted-for water (**UFW**), being the difference between the volume of water delivered in a network and legitimate consumption. This was a key reason for employing a leakage convergence methodology: to decrease the amount of water that was not accounted for. This reduction in UFW subsequently meant the volume of UFW which is attributed to PCC, through the MLE calculation (Maximum Likelihood Estimation) which forms part of the PC definition, was significantly reduced.

Overall, this change to the PCC methodology, as a consequence of leakage convergence reporting requirements at the end of AMP6, led to YWS' baseline for AMP7 being too low. It was reduced from 132 l/h/d as submitted in YWS' WRMP19 (discussed further below) to 128.2 l/h/d. YWS wrote to Ofwat in May 2020,⁶ challenging this reduction and proposing that a re-baselining exercise be undertaken, to prevent the exact problems which have now materialised in Ofwat's PR24 DD: YWS intended to align future targets with back-cast average PCC estimation. YWS communicated this again in January 2021 and February 2024⁷ but, in its responses, Ofwat fails to engage with the future impact of YWS' lower baseline for AMP7.⁸

It seems also to have been an oversight on Ofwat's part to impose an 8.9% PCC reduction target without considering the change in PCC baseline as a result of Ofwat's own re-baselining exercise. This 8.9% reduction was described in YWS' initial WRMP19 targets but only applied to the original baseline of ~132 l/h/d, once PCC was calculated using the post leakage

convergence methodology the baseline changed to 128.2 l/h/d. A 8.9% reduction was only relevant to the 132l/h/d baseline; given Ofwat’s rebaselining exercise, it should have scaled the reduction it applied to a PR19 baseline of 128.2l/h/d, i.e. a 6% reduction should have been applied instead. Although these percentage reductions appear similar, the practical effect in terms of deliverability is material, particularly given Yorkshire Water is a frontier company. YWS provided clear evidence in its PR19 data tables and WRMP submissions as to why its proposed AMP7 target of 120.1-120.5 l/h/d was appropriate in light of the original baseline. In YWS’s view, there is no basis on which Ofwat can justify the discrepancy – this appears simply to have been a mistake - and it is unclear to YWS, therefore, why Ofwat has not re-baselined the PCC target as part of the optimised WRMP24 process. As far as YWS is aware, this situation is unique to YWS and risks YWS being unfairly treated in comparison with others in the industry.

As a result, we believe **Ofwat should accept YWS’ proposed PCC PCL glidepath for AMP8 to enable YWS to achieve a stretching target of 120.5 l/h/d by the end of AMP8**. This glidepath is set out in **Table 1-1** below and is consistent with YWS’ WRMP24 submissions. This glidepath will ensure that YWS can keep driving incremental improvement in performance throughout the AMP and beyond to 2050, closing the supply-demand deficit forecast for AMP8 while also maintaining its frontier position. Without this, a 3.6 l/h/d unfunded gap remains attributable to Ofwat’s error.

Table 1-1 proposed PCC PCL glidepath for AMP8 through to 2030, including YWS’ PCC actual (navy green), estimates for year 5 outturn (orange) and forecasted (light green) figures. The last row has been adjusted to reflect the % reduction YWS would achieve by implementing its proposed future improvements against an appropriate baseline.

	AMP6			AMP7					AMP8				
	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5
	2017 / 18	2018 / 19	2019 / 20	2020 / 21	2021 / 22	2022 / 23	2023 / 24	2024 / 25	2025 / 26	2026 / 27	2027 / 28	2028 / 29	2029 / 30
PCC In-Year (l/h/d)	128.3	128.6	127.7	141.2	131.5	123.9	125.3	125.2	124.1	122.9	121.7	120.5	119.3
PCC 3-Year rolling average (l/h/d)	132.0	130.5	128.2	132.5	133.5	132.2	126.9	124.8	124.9	124.1	122.9	121.7	120.5
Reduction against appropriate 2019/20 baseline (%)				-3.35	-4.11	-3.12	1.01	2.65	2.60	3.22	4.13	5.07	6.01

4. WRMP: Ofwat’s proposed performance commitment level is inconsistent with our WRMP targets

We are concerned that Ofwat is not acting fairly in failing to reflect WRMP targets that both the EA and Defra, as technical regulators, have reviewed. We explain this in more detail in this section.

Our WRMP19 sought to achieve an 8.9% PCC reduction from 132 l/h/d to 120.4 l/h/d. This percentage reduction was primarily based on a compulsory PCC calculation as part of the PR19

process. This calculation utilised a meter optants model, with which YWS did not agree, which estimated that thousands of YWS' customers who had opted for meters would have lower reductions in PCC than YWS had forecasted. This model was amended as part of the WRMP19 process. The decision to amend this model, and a reduction in meter optant properties, evidence that it was inaccurate. Its use negatively impacted YWS due to the stretching expectation, in percentage reduction terms, which YWS had to adopt. Contrary to an 8.9% reduction, and notwithstanding Ofwat's erroneous baseline for AMP7, YWS percentage reduction should have been 6%, as stated in YWS' WRMP19 submissions. This is consistent with the data tables YWS submitted to Ofwat. Ofwat did not provide YWS with enhancement funding for its proposed PCC targets or YWS' proposed targets at PR19 (only £400k per annum in base, as referred to above).

- a) Ofwat's modelling has, however, created a discrepancy between the PCC PC and YWS' WRMP targets. This discrepancy is important to appreciate because it risks creating a supply-demand imbalance. As the WRMP assumes an appropriate baseline has been applied, anticipated demand is set at 119.3 l/h/d instead of Ofwat's unachievable AMP8 DD target of 114.5 l/h/d. If the latter is assumed, total *modelled demand* decreases resulting in an apparent water surplus on the supply-side. However, *actual usage* will be much higher – YWS cannot achieve the targets that have been set.
- b) This introduces significant risk to the WRMP's balance – an overly ambitious PCC target could push YWS onto an adaptive pathway, leading to unintended / detrimental effects in other areas of the plan over the course of the AMP. Overly stretching within-AMP PCC targets disincentivise longer-term (WRMP-related) investments which are expected to deliver solid returns over time – this is particularly relevant given YWS' proposed target for AMP8, if funded and achieved, would surpass the statutory interim target of 122l/h/d by March 2038 according to in-year dry year PCC forecasts for year 4 (2028/29), demonstrating effectiveness of YWS' WRMP.
- c) Given growth is a key agenda for the government, increasing new housing and innovative industries such as hydrogen generation, YWS would likely have to constrain industry locating to the region without investment into supply side options – investment that is not needed according to the WRMP (which shows less consumption and therefore more available supply than will reflect reality), but which is needed in reality.

Other national interventions beyond the initiatives included in YWS' PCC glidepath for AMP8 are also expected to reduce PCC in the longer term. These include the Government's water labelling initiative, due to commence in 2025, to enforce mandatory water labelling on all white goods. YWS has been feeding into this by responding to Ofwat's consultation and engaging in Water Efficiency forums to ensure this is embedded effectively to maximise its benefits. The benefits of water labelling are included in YWS' WRMP24 data tables, with a cumulative benefit of 39.32 MI/d by 2049/50.

YW, in collaboration with Ofwat, has also recently consulted on changes to the building regulations which enforce mandatory water efficiency measures on new builds across the UK. The commencement date is pending. YWS has also consulted on the Water Efficiency innovation fund, commencing in 2025, through which circa. £75m has been ringfenced for a national communications campaign which will collectively deliver water saving messages across varying mediums on a national front. Though the benefits of these initiatives have not been included in our PCC PCL glidepath as they are yet to be quantified, YWS anticipates that once these initiatives are underway, they will have a material, positive impact on PCC reduction over the course of AMP8 and beyond. These interventions and their delivery timelines are out of YWS' control, and external factors will also play an important role in ensuring these interventions are delivered, but YWS will continue its efforts to help ensure the benefits of these initiatives are maximised upon commencement.

For WRMP24, the collective industry target of 110l/h/d by 2050 is still in place and YWS' WRMP24 water efficiency options (consistent with Ofwat PR24 submissions) ensure that its glidepath achieves this target.

5. Ofwat’s assessment of COVID impacts.

For AMP7, Ofwat applied a national uplift to figures submitted in-year as part of PCC reporting to reflect the impact of COVID on water usage. Our work shows that this underplays regional differences, again providing evidence as to why YWS’ baseline should be higher (and as a result its targets less stretching).

COVID-19 created a persisting change in people’s water use habits. This is largely underpinned by the increase of people’s working habits being at home rather than being in the office every day, increasing the overall PCC for household properties. YWS engaged Artesia to quantify the impact of COVID-19 and increased ‘working from home’ during AMP7 and compare the impact on customers served by YWS to Ofwat’s modelled estimates calculated when applying its industry national uplift. In adjusting the glidepath to YW’s proposed WRMP24 glidepath, Yorkshire Water have already accounted for COVID impact, by building the plan from the AMP7 outturn meaning no adjustments would be required.

6. Cost: We have never been sufficiently funded to hit any of the proposed PCC targets.

6.1 Funding gap

As described above, not only is the level of stretch unachievably high, but YWS has not, and never has been, appropriately funded for any significant PCC reduction activities. YWS has achieved its frontier position on PCC without previously claiming any enhancement funding. It has only been provided with £400k in base funding for PCC. While Ofwat cites “significant underspending of PR19 2020-23 enhancement allowances for some companies”⁹, that does not apply to YWS as it did not receive any PCC enhancement funding.

As customers’ water usage reduces, achieving further incremental reductions in PCC can require significantly more time, money and resource (as has been recognised by Ofwat both in PR19 and PR24 in relation to other PCs).

While widespread initiatives must continue, work must also be done to identify inefficient customer subgroups and design initiatives which help reduce their usage. For example, YWS is focussing efforts on unmetered customers, which makes up 40% of households – and which have an average PCC of 152.1 l/h/d.¹⁰ YWS’ work in introducing meters to as many households as possible (which makes up approximately 60% of Yorkshire households) has meant that YWS can deprioritise many of those customers, given their average PCC of 152.1 l/h/d.

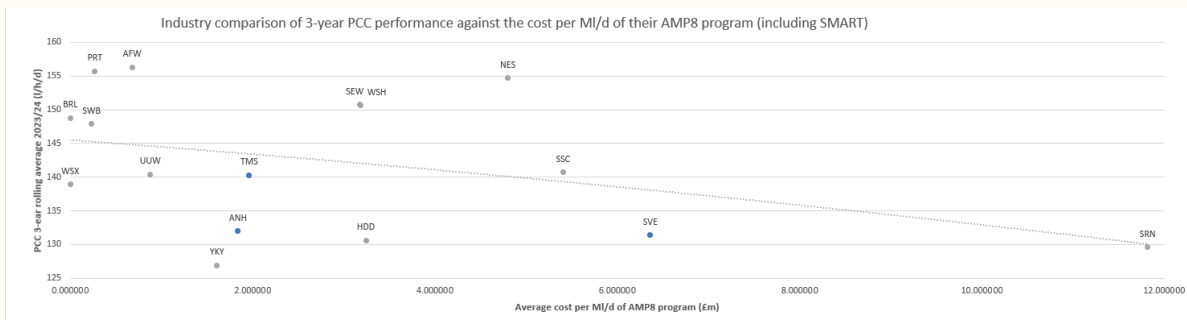
The nature of the demand-reducing activities that customers are being encouraged to perform also changes as PCC falls. For example, a campaign to encourage swifter showers may be easier to run than a targeted campaign encouraging that leaking taps be checked and fixed. Similarly, YWS also installs flow regulators in household properties to reduce the amount of water consumed per minute, and proposes to use enhancement funding to do this across more areas of Yorkshire. For those YWS customers which are already efficient (say, in the 105-110 l/h/d range), e.g., because they already have a meter or flow regulator installed or are otherwise water efficient in their daily use of showers and taps, fewer options are available to YWS to encourage greater water efficiency. The incremental gain of encouraging such a customer reduce their time spent in the shower per day from, e.g., 5 minutes to 4.5 minutes is much more difficult to achieve. This is especially the case when compared to companies with inefficient customers (say, in ≥ 145 l/h/d range) for whom encouraging a reduction in time spent in the

shower per day from 10 minutes to 8 minutes remains an effective (and likely cheaper) option which achieves higher PCC reduction in the short-term.

As mentioned previously, behavioural changes from customers are also critical to PCC reduction and certain activities can require high initial investments. Companies in a frontier position face the difficult challenges of identifying and targeting customers who are inefficient to attain higher PCC reductions. This can be difficult for a variety of reasons, for example (i) because some customers opt not to be water efficient, with more pronounced examples including customers who own and maintain large gardens or a swimming pool, and (ii) because targeted action in PCC reduction is not guaranteed a success rate. Only small gains remain for efficient customers and, though there may be larger gains for remaining inefficient customers, there are difficulties in identifying where larger gains can be attained particularly when there is limited data which can be used to assist in the process. The result is an increase in cost as work continues to combat these challenges.

There is strong evidence in the data on how relative costs of PCC reduction differ depending on a company’s average household PCC starting point. This can be seen from **Figure 6-1** below, which shows water companies’ PCC performance plotted against the average cost per MI/d of their AMP8 programme, populated from data in CW8 (Yorkshire Water have interpreted the initiatives in CW8 attributing the interventions to PCC or Business Demand reduction). The figure shows that companies at the forefront or upper quartile of the industry tend towards having more costs associated with better performance in relation to PCC. This data also shows how staggered cost efficiency assessments for cohorts of water companies based on their PCC performance would be more appropriate for assessing PCC reduction unit rate costs, producing a fairer cost curve across the industry.

Figure 6-1 industry comparison of 3-year PCC performance against the cost per MI/d of their AMP8 programme (including SMART), based on CW8 data submitted to Ofwat11



6.2 Approach to unit costs

We further consider that the use of a median unit cost average is not appropriate for assessing YWS’ costs (or indeed other companies’ costs). Lower quartile companies with higher average PCC, and lower cost options still available to them to achieve reductions in PCC significantly reduce the median unit cost to the detriment of YWS (which, as explained above, needs to spend more to achieve further same percentage reductions).

Ofwat has calculated a range for unit costs per company of £0.34 million to £8.32 million per MI/d, producing a median value of £1.16 million per MI/d. This is not a sufficiently robust way of assessing unit costs. Ofwat has neither considered the estimated range of costs for YWS’ activities, nor has it considered the factors specific to companies in a frontier position which directly affect unit costs.

Ofwat determines that the median value can be applied to YWS following a ‘deep dive assessment applying model adjustment enhancement criteria’. Ofwat claims that certain activities match those other companies but are costed at a materially higher unit rate. For instance, Ofwat cites high unit costs in YWS’ “flow regulators” options which disregards the work done by YWS in engaging with the market to produce its cost estimates in the context of its supply chain.

6.3 Level of cost challenge.

Ofwat's overall 79% haircut to our water efficiency activities from £32.4m to £6.9m is extreme, resulting in only £3.69m of YWS' proposed £10.2m for PCC reduction, and does not consider several important factors, including:

- a. YWS' frontier position and the difference in achieving further incremental PCC reductions with a relatively efficient customer base (as described above).
- b. While proposed activities may appear similar between companies, as stated in the PCC enhancement claim, the scope of activities proposed by YWS significantly grow the variety and scale of interventions planned to support PCC reduction.
- c. The bare application of a median unit rate to 3.2 Ml/d (being Ofwat's modelled benchmark)¹² excludes the possibility of a company carrying out any of the higher-cost activities, or the same activities with reduced benefit, which YWS is more likely to be required to undertake, with its unit cost above the median (e.g., from £3-£8m based on Ofwat's range).

Ofwat also does not interrogate whether there are any particular issues faced by YWS (or which are more/most prominent in Yorkshire) which require specific (costly) solutions. For example, Ofwat has had no regard to how PCC is affected by the relative affluence of the water company's area. As explored above, some PCC initiatives require customers to take interventions in their homes, some of which are costly for the customer. In areas such as Yorkshire, there are regions with higher proportions of income deprivation and at-risk customers who are less able to afford household upgrades that ideally would assist with PCC. In its water affordability analysis for YWS, Frontier Economics estimates that income deprived households, which could comprise more than 14% of YWS' asset base by FY30.¹³ Similarly, it is difficult to further change the habits of metered customers which comprise 60% of YWS' asset base and are already engaged in personal water efficiency activities, or find additional solutions to further reduce their overall demand. Realistically, YWS has less chance to influence many of these customers.

For example, when a water company is not at the frontier, it can undertake region-wide activities to achieve a lower PCC figure. However, this is not available to the company at the frontier, because it will need to move towards customer-specific interventions in order to achieve greater reductions in PCC. Therefore, YWS can only undertake customer-specific activity, which costs significantly more. This is analogous to Ofwat's approach to other aspects of the price control. For example, Ofwat has previously accepted enhancement claims for companies at the frontier of leakage performance, due to less costly interventions having been exhausted by those companies.

Ofwat also notes that YWS "*has chosen options which have high cost and low benefits, with no appraisal or cost benefit analysis to support why these options were chosen*". This is not the case, as explained above.

7. Risk/reward balance

Yorkshire Water has been, and will continue to be, over-penalised.

We are surprised that as a company at the frontier of PCC performance in the industry, we continue to be penalised and that Ofwat, due to its artificially inflated PC as set at PR19, consider us to be underachieving.

In spite of not having claimed costs above the £400k in base during PR19, we have made clear, significant strides in PCC over AMP7. This can particularly be seen in relation to metered customers – the average metered customer in Yorkshire already has a PCC below the WRMP target for 2050 of 110 l/h/d. As we continue to encourage customers to take up metering, Yorkshire Water considers that PCC will continue to improve and customers with metering will stay below the 110 l/h/d threshold.

If Ofwat's PCC rate is maintained at final determination for PR24, our projected penalty over the course of AMP8 is £37.95m. Given the constraints to achieving lower PCC explained above, YWS does not consider that it could ever efficiently reach the target set for it at the end of AMP8. YWS considers this to be further evidence of a misconceived ODI architecture, and an

example adding to the potentially significant risk / reward imbalance inherent in Ofwat's outcomes framework presented in the DD.