



SSC18

Our approach to PCC targets and the impact of the Covid-19 pandemic

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Supplementary appendices:

- SSC18a: Skewb report on impact of Covid-19 on SSC household consumption, August 2023
- SSC18b: Artesia report on the impact of Covid-19 on consumption between February and October 2020, May 2021
- SSC18c: Frontier Economics impact of Covid-19 on the water sector, December 2020

1. Introduction

This appendix details the ramifications of the Covid pandemic from 2020 to 2022 on our per capita consumption (PCC), a key performance metric. PCC is a measure of household water consumption, and is one component of the water balance alongside business water consumption, leakage, and other smaller components.

The Covid pandemic has significantly affected our performance, a material step change factor that was not contemplated and could not have been foreseen when setting targets and incentive rates during PR19.

In March 2020 the Covid pandemic, which had been worsening and gaining ever more attention since the start of 2020, accelerated significantly in terms of impact. The country entered 'lockdown' which meant that people were asked to stay at home, and schools and businesses were closed or switched to remote working.

This had a sudden and profound impact on the use of water. With more people at home, children away from schools, and many businesses closed, the proportion of water used at home significantly increased. These conditions prevailed, under various iterations ranging in severity of restriction, until 2022. Whilst many areas of the economy have returned to normal, and all legal restrictions have been removed, there is a remaining behavioural shift in the ability and desire of some sectors of the economy to work more from home. Hybrid working arrangements are now far more common than they were before the pandemic.

As a business we also had to deal with the impacts on our operations and employees, as well as ensuring our wider services continued to be delivered reliably. There were several complex areas that were absorbing significant management and Board focus at the time:

- Ensuring critical water supply operations continued so that customers' supplies were uninterrupted. This also involved key areas of the supply chain, particularly chemical suppliers and our subcontracted repair and maintenance activity.
- Understanding which of our operations were under some form of restriction and how to manage this, for example customer facing operations such as meter reading.
- Rapidly rolling out new IT capability (eg Microsoft Teams) to enable working from home for our office based employees. This also included additional efforts to make core centralised systems available to homeworking employees, which had previously only been accessible from within our controlled IT network.
- Managing the welfare of our own employees during this period of extreme personal uncertainty and anxiety, and ensuring our facilities and working practices complied with the rapidly evolving national guidance.
- Ensuring that our external communications and messaging were not in conflict with the additional national messaging for Covid hygiene, for example on increased hand washing.
- Considering and managing the implications for major capital projects already under construction.

Without intervention we are subject to a forecast underperformance penalty against our PCC targets of £13.4 million, far in excess of expectations of the risk range at PR19, and dwarfing the other under- and out- performance incentives we have incurred and are forecast to incur over the price control period.

Ofwat was aware of the impacts of Covid on water consumption patterns shortly after the pandemic started, and for this reason it has elected to defer the assessment of the PCC performance commitments to end of period, to be assessed as part of PR24, rather than the in-period incentives initially determined at PR19.

This representation makes the following key arguments:

1. PCC has traditionally been a low volatility figure, reasonably stable year to year and on the whole on a downwards trend as water efficiency initiatives, both from our own activity and broader activity (such as upgrading of home appliances), have benefits over time. An event capable of shifting water use behaviours so suddenly, and by the levels seen during the Covid pandemic, was unprecedented and unforeseeable.

2. There are unique geographical differences for our South Staffs region that demonstrate why the impact on us has been greater than any other company. Our SST region covers a dense urban area in close proximity to the large industrial/commercial cities of Birmingham and Wolverhampton, but neither city is in our supply region. Prior to the pandemic, this means that we naturally had a high level of commuting from within our region into nearby Birmingham and Wolverhampton areas, in Severn Trent's supply region. During the pandemic, that commuting reduced significantly, transferring that water consumption not only from business use into residential, as other companies saw, but also from within Severn Trent's region into ours. We saw this impact immediately in our total demand and our distribution input figures presented in this document show this impact. In contrast, in our CAM region, there is less commuting between the area and neighbouring areas because proximity to dense industrial and commercial centres is lower. In CAM, we saw a shift between business and residential use, reflecting customers staying at home within area, but we did not see a material increase to our distribution input for the region as a whole. With support from a third party consultant, we present data that can demonstrate this commuting impact on our regions.
3. We, and the sector as a whole, have delivered water efficiency improvement activity for a long period of time. PCC as a whole has been trending downwards for many years, both as a result of direct company activities, such as education, water saving devices in the home, and the uptake of water meters, but also as a result of wider trends such as the modernisation of home appliances over time. At PR19 we planned a number of water efficiency activities, set out in our plan at the time, and our targets were set on the basis of these activities and a benchmarking comparison with the sector. None of the activities that we or the sector had planned at PR19 could have prevented the uplift in residential water use that occurred suddenly as a result of the Covid pandemic. During the pandemic itself, we continued with the activities and initiatives that we had planned at PR19, working within the restrictions and disruption that was caused generally across the economy. Since then, we have pressed on with a focussed water efficiency programme, using additional third party support.
4. The above factors considered, it is appropriate to abate the majority of the underperformance penalty that we are forecast to incur under the design of the existing PR19 performance commitment, as the material step change impacts of Covid, which we quantify in this representation, were entirely out of management control.

Our work in this appendix primarily focusses on updated impact data to 2023, with analytical support from Skewb, and analysis of our own demand reduction activity over the period. However, soon after the pandemic there were also two industry level studies, by Frontier Economics and Artesia, that looked at the impacts on consumption and other factors as they were at that stage. We have included both of these reports (document references SSC18b and SSC18c) as supporting evidence. The trends and factors cited by these reports are consistent with the impacts three years after the start of the pandemic when more data is available.

2. PCC history, trends, and the Covid step change

In this section we present a series of data and visuals which show the pre- and post- Covid water consumption of customers. We also show some industry comparative data showing our relative position. The purpose of this section is to clearly demonstrate the impact that Covid caused on consumption, both residential and business, for each of our regions, and also for the whole sector.

Table 1: SST consumption from 2017/18 to 2022/23 showing percentage change from 2019/20 three-year-average

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Household consumption, MI/d	169.01	176.85	171.84	203.44	205.02	197.71
Population, nr	1325207	1343713	1358788	1348632	1375802	1383693
Per capita consumption, litres/person/day	127.53	131.61	126.47	150.85	149.02	142.89
Percentage change from 2019/20 three-year-average				+17%	+16%	+11%
Business consumption, MI/d	57.14	58.11	60.25	51.23	52.84	60.93
Percentage change from 2019/20 three-year-average				-12%	-10%	+4%
Distribution input, MI/d	305.48	312.22	303.68	322.82	326.06	325.64
Percentage change from 2019/20 three-year-average				+5%	+6%	+6%

Table 1 above shows that for the South Staffs region, PCC increased by 17% in 2020/21 compared to the previous three year average (the PR19 baseline). At the same time, business consumption fell by 12%. The PCC increase and business consumption reduction was sustained into 2021/22, at +16% and -10% respectively. In 2022/23 residential consumption has begun to fall, but still remains 11% higher than the baseline, and business consumption has increased above its pre-pandemic level with a +4% growth above the baseline. In 2020/21 the increases to residential consumption and decreases to business consumption combined to create a net increase in distribution input of 5%. This was sustained into 2021/22 at +6%, whilst in 2022/23 although residential consumption has started to fall back, it has been offset by the increase to business consumption resulting in a distribution input still 6% higher than the baseline.

Table 2: CAM consumption from 2017/18 to 2022/23 showing percentage change from 2019/20 three-year-average

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Household consumption, MI/d	43.30	44.96	41.51	49.43	48.00	47.44
Population, nr	315060	321277	326922	328587	340381	349140
Per capita consumption, litres/person/day	137.43	139.95	126.97	150.43	141.03	135.89
Percentage change from 2019/20 three-year-average				+12%	+5%	+1%
Business consumption, MI/d	21.27	22.74	25.96	20.57	22.65	25.23
Percentage change from 2019/20 three-year-average				-12%	-3%	+8%
Distribution input, MI/d	80.91	84.75	83.10	83.62	83.62	86.51
Percentage change from 2019/20 three-year-average				+1%	+1%	+4%

Table 2 above shows that for the Cambridge region, PCC increased by 12% in 2020/21 with business consumption falling by 12%, so effectively a direct transfer from business to residential consumption with minimal impact on distribution input. In 2021/22 the residential consumption fell back more quickly, but still remained 5% above baseline. By 2022/23 the residential consumption in Cambridge has fallen back to only 1% above the baseline level. Business consumption also recovered more quickly, 3% down in 2021/22 and in 2022/23 showing a strong growth increase of +8%, which also explains why distribution input is higher in 2022/23 by +4% overall.

The data in the two tables above demonstrates the following:

- For both regions, an acute impact occurred at the onset of the Covid pandemic, as a result of the switching of consumption from business into residential as a significant proportion of people were confined to home.
- However whereas in Cambridge the transfer was almost one to one, in our South Staffs region it was not – the increase in residential consumption was far greater than the reduction in business consumption, resulting in an overall increase to distribution input.
- In 2021/22, PCC fell from its 2020/21 peak in Cambridge but not materially in South Staffs, and business consumption recovered more quickly in Cambridge region also. At this stage, distribution input in Cambridge remained stable, but increased further in the South Staffs region.
- By 2022/23, PCC has fallen in both regions, but in the South Staffs region still remains 11% higher than baseline whereas in Cambridge region it has returned to almost the baseline level.
- In both regions, we can now also observe material business consumption increases which are holding the distribution input levels high in South Staffs region and now increasing distribution input in Cambridge region.

At the industry level, annual performance report data showed an uplift for almost all companies in 2020/21 compared to the 2019/20 three year average baseline, and for many companies this continued into 2021/22. The impact of Covid has diminished at different rates for different companies.

Table 3: PCC data from APR 2023 table 3F for 2017/18 to 2022/23 with percentage change from baseline

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Percentage change 2020/21 to 3ya baseline	Percentage change 2021/22 to 3ya baseline	Percentage change 2022/23 to 3ya baseline
ANH	134.8	134.1	133.3	146.9	136.0	131.3	+10%	+1%	-2%
HDD	128.8	135.0	133.9	145.3	147.3	144.6	+10%	+11%	+9%
NES	148.7	153.6	149.6	165.7	157.8	153.8	+10%	+5%	+2%
SRN	126.0	129.6	128.1	139.0	133.6	128.4	+9%	+4%	+0%
SVE	134.4	133.9	132.8	144.7	137.7	130.3	+8%	+3%	-3%
SWB	141.9	152.1	144.0	138.6	143.6	152.6	-5%	-2%	+5%
TMS	145.8	147.1	144.9	152.8	144.7	140.6	+5%	-1%	-4%
UUW	143.6	144.4	144.0	151.2	143.0	140.0	+5%	-1%	-3%
WSH	143.7	147.6	145.8	160.9	154.8	148.7	+10%	+6%	+2%
WSX	135.9	139.3	138.3	151.8	144.9	138.8	+10%	+5%	+1%
YKY	128.3	128.6	127.7	141.2	131.5	123.9	+10%	+3%	-3%
AFW	151.0	158.3	152.8	167.0	157.9	157.0	+8%	+3%	+2%
BRL	148.9	151.3	146.4	161.1	154.7	148.7	+8%	+4%	-0%
PRT	146.8	151.3	149.9	170.5	160.3	152.2	+14%	+7%	+2%
SES	146.8	156.9	143.3	163.4	151.5	150.8	+10%	+2%	+1%
SEW	143.6	145.3	143.1	165.9	158.6	150.3	+15%	+10%	+4%
SSC-SST	127.5	131.6	126.5	150.9	149.0	142.9	+17%	+16%	+11%
SSC-CAM	137.4	140.0	127.0	150.4	141.0	135.9	+12%	+5%	+1%

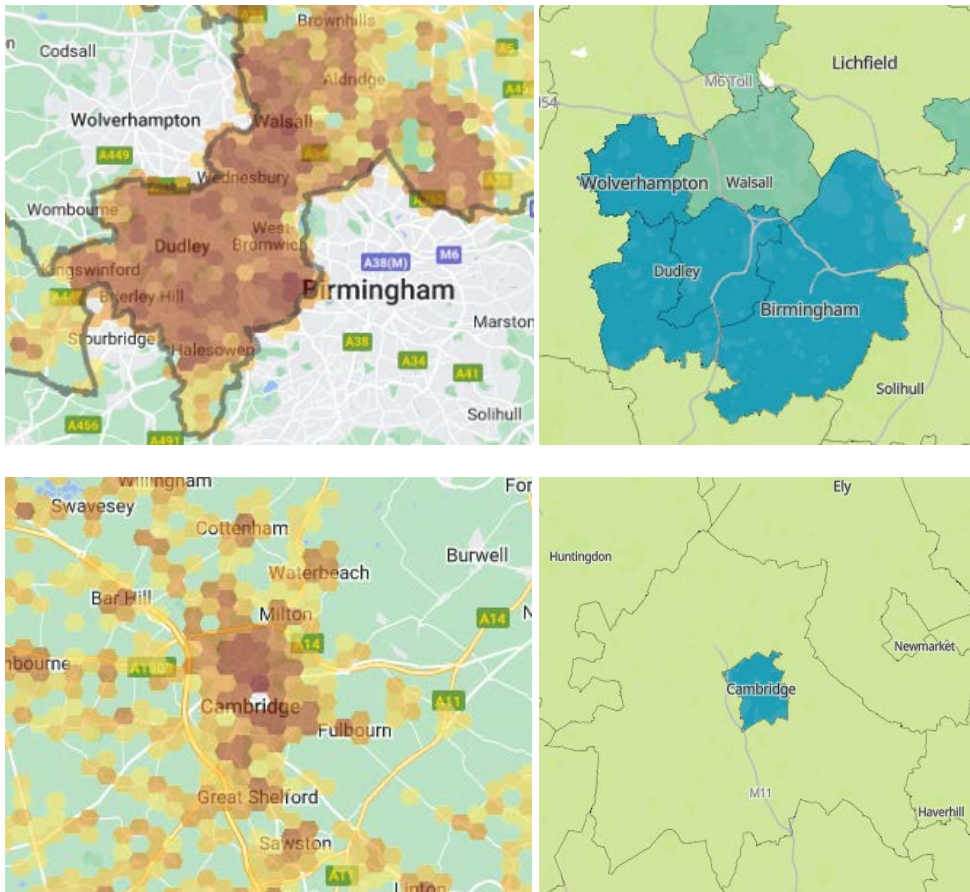
The data above shows that PCC acutely increased for almost all companies in 2020/21, with the exception of SWB, which is an outlier here as the only decrease. This may reflect the reduction in out of area tourism. Our South Staffs region was the highest increase at +17%, and this was from a previous position around the lowest in the sector. In 2021/22 most companies were still seeing increases but for many this had dropped back significantly from the previous year. Our South Staffs region remained high, along with our distribution input as we showed in table 1 on the previous page. By 2022/23 most companies PCC levels have recovered to within a small distance from their baseline levels, either slightly above or slightly below in some cases, which includes our Cambridge region. However our South Staffs region remains at +11% above the three-year-average baseline.

The step change in the water consumption households in the South Staffs region, from a previous position amongst the lowest in the country to one now considerably higher, cannot be explained only by the transfer of consumption from business to residential within region alone. Whilst it is clear across the sector that Covid led to an acute impact to PCC as a result of enforced lockdowns that lasted around two years, for our South Staffs region this impact was greater than any other company and has been sustained beyond the two year time period that most other companies have been affected over. Our data in table 1 showed that for our South Staffs region, the increase in residential consumption was greater than the decrease in business consumption, showing that in this case there is something else happening specifically to this region.

Over the past three years since these unprecedented impacts materialised, we have been examining the data and working to understand the causes. We have determined that the differing behaviour of residential consumption in each region is due to the interaction of South Staffs region with neighbouring cities which are in Severn Trent's supply region. The South Staffs region is densely populated especially in the southern half of the region where it is sandwiched between equally dense areas in and surrounding Birmingham and Wolverhampton. These areas are densely populated but also highly industrialised. These two cities attract high levels of commuting for work as they are easily accessible by both road and public transport from the southern part of our area and are very close in distance terms, with the two city centres only separated by around 10 miles. However the key element is that both of these cities are within Severn Trent's supply region. Under pre-pandemic conditions this would have meant that during working hours a significant number of people would have commuted into these areas therefore consuming water from Severn Trent. During and post pandemic some of this consumption has been transferred into our region, as demonstrated by the increased distribution input and the increased residential consumption over that transferred from business consumption within area.

This very different geography is illustrated in the image below where we show our customer density for each region alongside ONS data¹ on overall density of surrounding areas.

Figure 1: geographical location of South Staffs and Cambridge regions in relation to their surrounding areas



Left hand maps show our customer density within our regional boundaries for each region.

Right hand maps show ONS population density¹ by local authority district in relation to the surrounding areas.

As can clearly be observed from the ONS data (the maps shown on the right hand side of the figures above), the areas surrounding and including Birmingham and Wolverhampton, including Dudley and Walsall, are densely populated compared to the adjacent

¹ <https://www.ons.gov.uk/census/maps/choropleth/population/population-density/population-density/persons-per-square-kilometre>

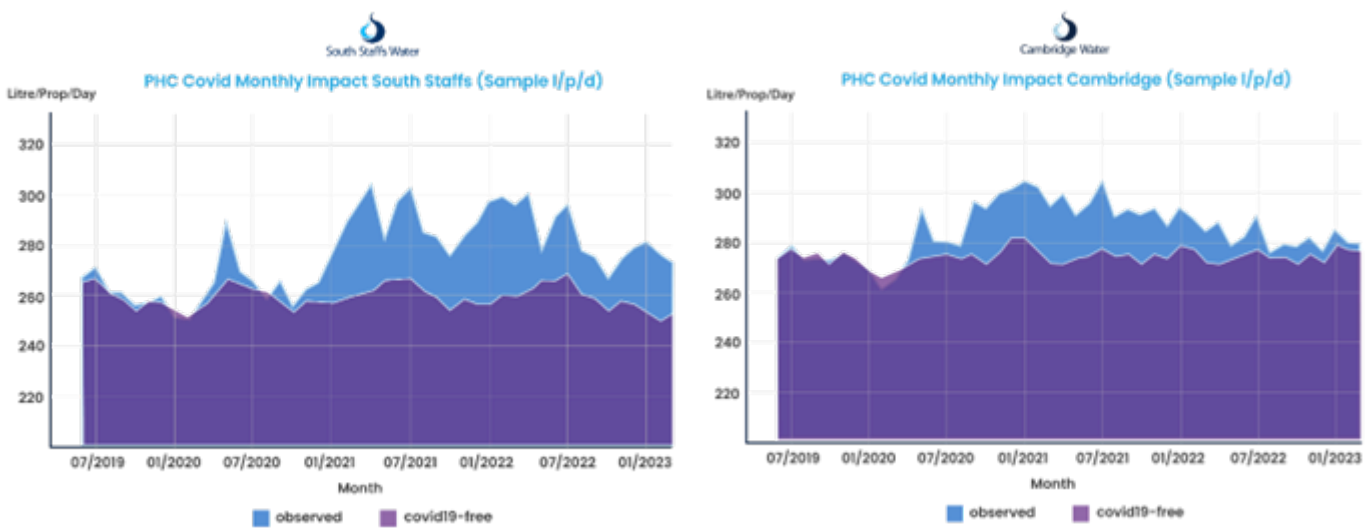
regions where the geography quickly becomes more rural. In comparison, Cambridge city is relatively isolated within its local area. Cambridge city is located wholly within our supply area, but in the South Staffs area, we only supply the corridor which sits directly between the two major cities of Birmingham and Wolverhampton, which we do not supply. This geography, coupled with the nature of the businesses in the heavily industrialised and commercialised West Midlands area, leads to significant differences in commuting patterns.

In January 2023 we engaged a third party consultant, Skewb, to help us analyse granular data, and data sets wider than our own, to understand these impacts and behaviours. Skewb were founded in 2018 to provide simple and effective solutions to complex problems across the utilities sector. They are a team of ex-industry experts with specialism in Demand Management strategy and delivery. They used their core capabilities – understanding customer behaviour and data modelling insights – to analyse the impact of Covid-19 using a robust and bespoke AI machine learning methodology.

We attach Skewb’s report in full as part of our business plan submission, which is appended to the end of this document as a supplementary appendix. Skewb’s report details their credentials, approach and findings on this issue. The key conclusions from this report have been shared below, and we attached Skewb’s complete report as sub appendix SSC18a.

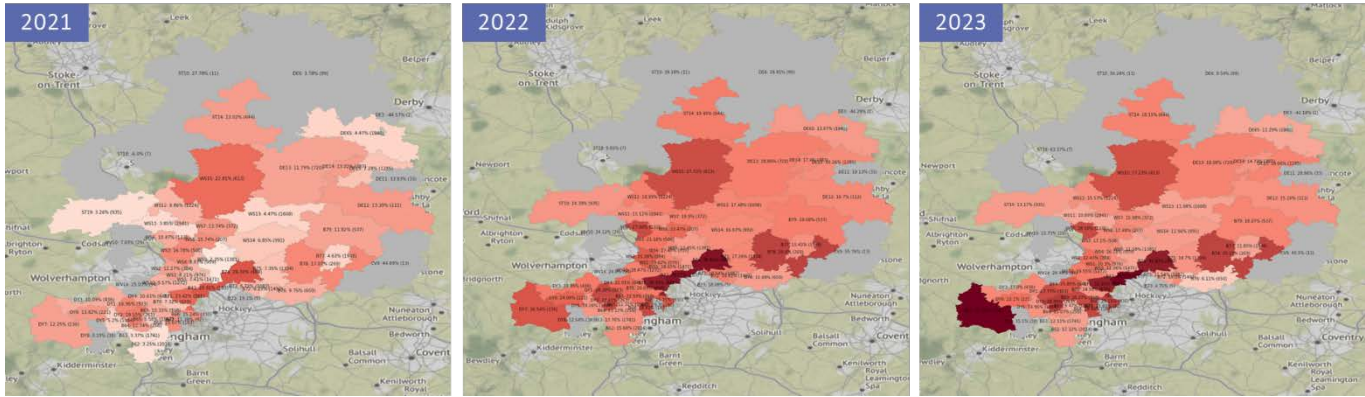
Skewb were supplied with granular consumption data at a customer level from pre and post pandemic, up to 2022/23 data. They combined this data with external data sets to try and determine if there were correlations between water use in our areas and commuting patterns that can demonstrate the Covid impact including the impact of the reduction in out of area commuting. To undertake this analysis Skewb constructed an artificial intelligence machine learning model, an approach selected because of its ability to handle large data sets that may not be fully complete and in different data formats. The model incorporated consumption and population data that we supplied, plus external data on traffic, weather and seasonality. From this model, a counterfactual analysis was produced that modelled per household consumption (PHC) as if the Covid pandemic not occurred. The gap between the counterfactual and the actual position then represents the impact of Covid on PHC. These outputs are shown below.

Figure 2: Comparison of modelled counterfactual PHC against observed data for each region

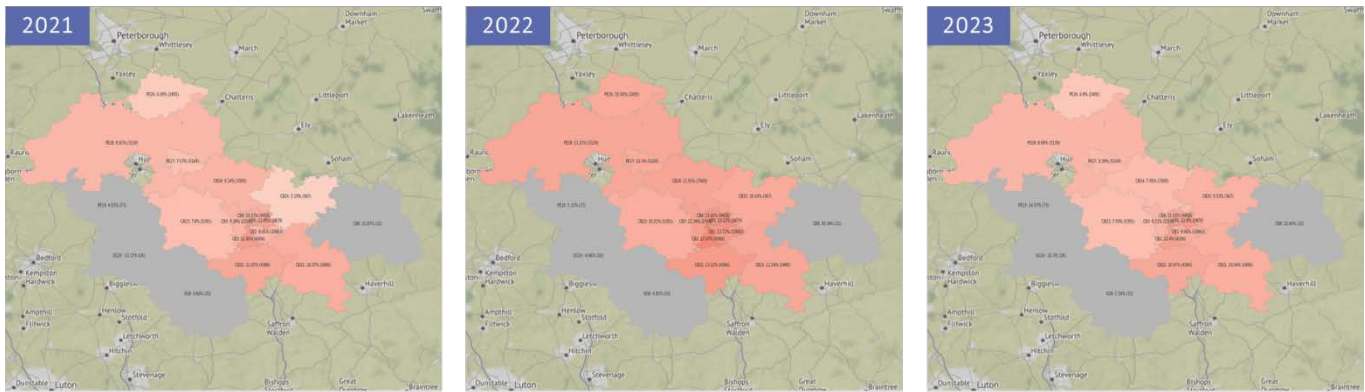


The charts above correlate with our observed annual data from tables 1 and 2 shown previously. In our Cambridge region, PHC was acutely impacted by Covid but has reduced over time back to a level similar to baseline. However in our South Staffs region, the initial acute impact also occurred but at this time has been sustained at a higher level than baseline. As the model utilises data on seasonality as well, this analysis also demonstrates, during the period shown, that consumption would not have been materially impacted by any significant peak weather effects, as the counterfactual ‘Covid free’ forecast is relatively flat.

Skewb also analysed data by district within our supply areas to determine the impact of commuting. The heatmaps below show which districts within our regions had the most increase in PCC, across the three years in the analysis. This shows that the areas which are strong commuter zones to Birmingham and Wolverhampton had the greatest uplifts in PCC initially, and also have the greatest sustained uplift as of the 2022/23 year.

Figure 3: SST region heatmaps showing PCC impact by district for each year in the study

In contrast, the heatmaps in Cambridge region are more evenly spread over the whole region.

Figure 4: CAM region heatmaps showing PCC impact by district for each year in the study

The evidence we have presented here, from a combination of our own water balance data, sector level performance, and Skewb's analysis on the impacts of Covid and district level commuting, collectively demonstrate that the South Staffs region has behaved quite differently to the majority of other companies for PCC impact over the past three years.

In general, the industry has seen an acute impact on consumption between 2020/21 and 2021/22, clearly as a result of the immediate impacts of Covid. However our South Staffs region clearly shows that this impact was not only more acute in this region than any other, but also has been sustained longer as a result of our region's unique proximity to major industrialised areas that are within Severn Trent's supply region instead of our own. The only comparable area of the UK where a similar regional boundary applies is around London, but even then, the proximity of Birmingham and Wolverhampton to our boundary is far closer than the proximity of other smaller water company areas to Thames Water's London boundary.

All of these factors are outside of our control at this scale. PCC reduction activity has been ongoing for several years, across both of our regions, with our own activity being naturally supported by other external factors such as improvements in the water efficiency of home appliances over time. This naturally leads to a slow and steady reduction in per capita consumption over time, and the only reason that a material step increase can occur is if something fundamental has changed within the customer base. What has happened here, supported by the evidence, is that Covid triggered not only an acute impact from the lockdowns, but also additional and residual impacts resulting from changed commuting patterns, to which our South Staffs region is particularly exposed because of its location between two major working locations both of which are outside of our supply region.

In the next section we will evidence the actions we have taken over the past three years to try and encourage customers to reduce consumption, but fundamentally as there has been a material step change in the underlying customer behaviour, it was not possible for pre-Covid PCC levels to be restored based only on activity that we have control over.

3. PCC reduction activity to 2022/23 and beyond

This section details the activity that we have delivered and are planning to deliver over the remaining two years of the price control period.

3.1 Activity since April 2020

At South Staffordshire Water Plc we are committed to helping customers reduce their overall water demand – less water required for household consumption means less water abstracted from the environment, and also leads to lower costs for our customers.

Our AMP7 plan to manage customer demand was detailed in our WRMP19 and described our approach:

Figure 5: our approach to water efficiency at South Staffs and Cambridge Water

What we're doing...



We said that we would help our customers to reduce their demand by delivering a varied programme of water efficiency measures including:

- Metering – We planned to consider options for ‘smart meter’ devices that would help our customers monitor and control how much water they use – something they said would be useful to them. We had intended to report the findings from our trial of the ‘WaterSmart’ customer engagement programme which included innovative use of sensors on bin lorries and the ‘Meter my Street’ initiative asking customers to submit their meter reads more frequently.
- Get Water Fit – We said that we would continue to explore innovative ways to work with customers to help them change their water use behaviour to make sustainable savings. We committed to the continued use of the Get Water Fit platform and its ‘nudge’ tools and techniques to encourage water efficient device installation.
- Developer services incentives – We committed to engage with developers to explore incentives for them to include rainwater harvesting and greywater recycling within new sites.

- Customer engagement – where possible, we also planned to target water efficiency advice at those customers who may have concerns regarding affordability of water bills. We planned for large scale customer facing activity aimed at reducing PCC such as a TV campaign and engagement from our community hub and ‘Water on wheels’ service.

At the start of the Covid-19 pandemic, government rules required all customer facing activity to cease. As a result in March 2020, we paused our customer facing activities (in line with most other UK water companies). Field teams were stood down to assess the situation. In order to resume customer services as quickly as possible whilst maintaining essential levels of health and safety, customer teams resumed services after only a few days.

We did not stop promoting water efficiency activity during the Covid pandemic, but we did have to exercise caution on how the messaging was used to avoid conflict with national messaging related to hygiene. A breakdown of the activities we delivered and how they were adapted is listed below.

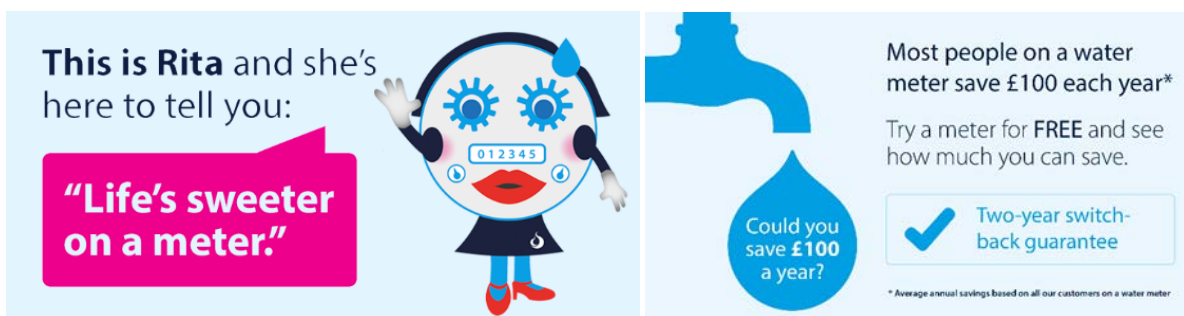
3.1.1 Metering

At the onset of the Covid pandemic, our meter reading teams were initially constrained to external meter reading activities and did not enter any properties to take internal meter reads. This led to an overall increase in skipped meter reads. This impact lasted until July 2020, when restrictions eased, and we were able to return to a normal meter reading schedule. In comparison with industry peers, services were remobilised rapidly and returned to normal in a swift turnaround.

We also focussed much more on metering communications related activity to support our understanding of customer changing behaviours during the initial months of the pandemic. We wanted to support our customers and delivered softer, non-invasive activity, in recognition of the severe disruption that was already occurring in our customers’ lives due to Covid impacts, and because of the necessary management focus on other core aspects of service and our operations, as detailed above, during this period of intense disruption.

We adapted planned metering communications to focus on submitting meter readings where possible, as opposed to asking customers to reduce their usage during the period the government was advising additional hand washing and household cleaning activities to prevent the spread of the pandemic.

Figure 6: examples of our metering communications activities



The above images show an overview of one of our main metering campaigns that have been running since 2020/21. We used a multi-channel approach to contact customers including written, social, email, SMS, adverts, contact centre drive, website advice and community engagement. We also made sure our metering campaigns were delivered through our communications team in order to accurately target customers and avoid over contacting households. The customer engagement section below describes the other communication activity we delivered in parallel.

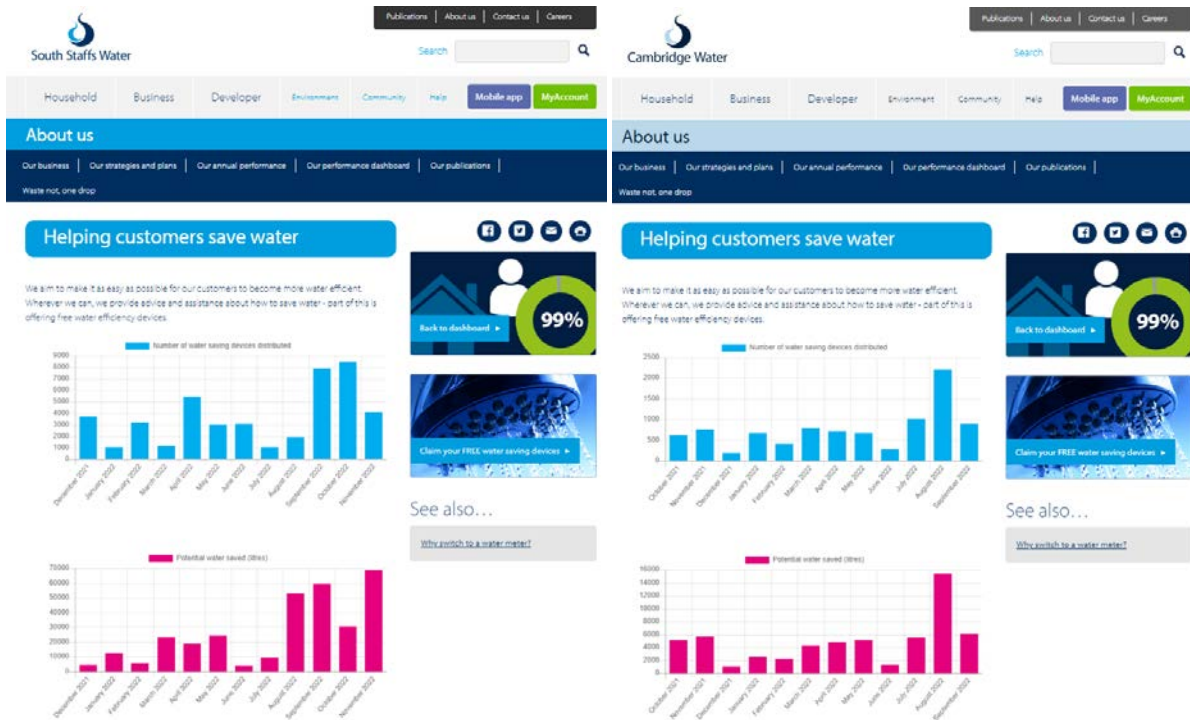
We have been using the Get Water Fit platform to distribute water saving devices to our customers for the last three years.

Figure 7: South Staffordshire and Cambridge Water use the GetWaterFit platform



Our results are available on the performance dashboard section of our websites² and are updated on a monthly basis, the images below show examples of this.

Figure 8: Results of our GetWaterFit activities to August 2023



We have distributed over 26,900 devices in the South Staffordshire region and over 6300 devices in the Cambridge region from April 2021 to August 2023.

² <https://www.south-staffs-water.co.uk/about-us/our-performance-dashboard>

3.1.2 Developer services incentives

When submitting our PR19 business plan, we wanted to be sure we had an appropriate number of performance commitments and financial incentives for a company of our size. But we also wanted to continue to recognise separate performance where it was necessary to do so. We rooted our financial incentives strongly in our customer research findings, so that there was a direct link between what our customers told us they wanted and the incentive on us to deliver it. As a result, over AMP7 we have offered developers financial incentives to encourage them to build more water-efficient homes.

We set challenging targets for water efficient homes, reliant on developers to achieve enhanced efficiency standards. As there are currently no nationwide mechanisms that encourage this behaviour, we have created an incentive through our infrastructure charging mechanism to all newly-built properties that are accredited by the Building Research Establishment³ through either the Home Quality Mark (HQM) for housing or the Environmental Assessment Method (BREEAM) for high-rise residential developments.

If a developer, self-lay provider or new appointee commits to building new homes with water efficiency levels of 100 l/p/d in each new build development, we offer a discount of 40% off the water infrastructure charge.

As shown in the table below, we have beaten our targets for water efficiency from new developments in the first three years, and we are forecasting to continue to do so as we engage more with developers within our areas on meeting the improved water efficient home standards.

Figure 9: Water efficiency savings attributed to new build homes in our regions

	2020/21	2021/22	2022/23
Water efficient housebuilding performance commitment PC target, MI	1.9	3.8	7.7
Actual performance, MI	2.2	15.5	16.6

3.1.3 Customer engagement

Our customer engagement strategy is in five overall parts:

Figure 10: our customer communication strategy for water efficiency



We have provided summary images below for each of the activities we have delivered under these headings. We have also called out specific successes in the commentary.

³ <https://bregroup.com/>

1

Mass communication



Summer Campaign – education of water behaviour

Life's sweeter on a meter – 2 year switch back guarantee

Metering campaigns – written, social, email, SMS, adverts, contact centre drive, website advice, community engagement

MP engagement – sharing a view of communication

Education – KS2 & KS3 activity for primary and secondary school ages

Waste not, one drop – TV advert

'Can for the Cam' – behavioural change campaign

For the first time for our company, we developed a television advertisement – 'Waste not one drop'. This ran for the first time in the summer of 2022 and was tailored to our two network areas (see Media and PR section below for more information).

Additionally we ran a behavioural change campaign specifically targeted at reducing PCC in the Cambridge region called 'Can for the Cam' from July to September 2023. The purpose of this campaign was to reduce household consumption in an area where we have previously struggled to manage incredible tight headrooms. It also forms part of our overall ambition to deliver household consumption reductions through sustained behavioural change. We wanted to trial a customer campaign in an area of higher meter penetration, so we could accurately measure the results, before rolling out larger PCC behavioural change campaigns across our region during the remainder of AMP7 (see section 3.3 Activity for 2023/24 and 2024/25 for more information).

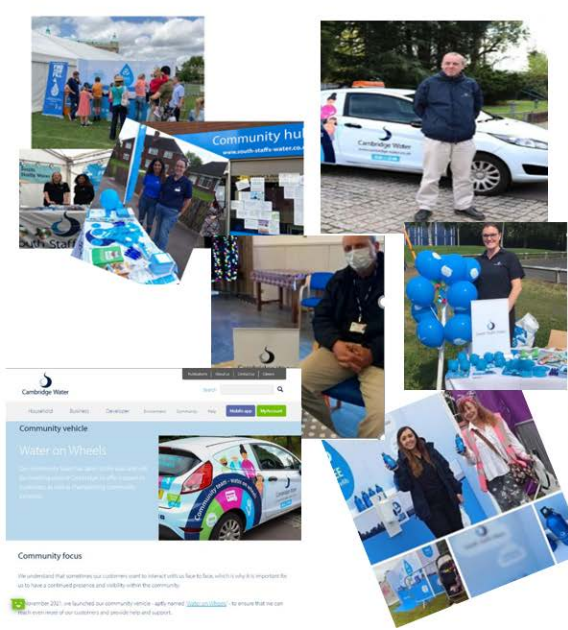
'Can for the Cam' encouraged Cambridge customers to change their water use behaviours and reduce water wastage by ditching their hose and switching to a watering can. The average garden hose can use up to 1,000 litres of water an hour and the Cambridge region has a higher proportion of gardens than the national average. Again, we used a multi-channel approach to deliver the key message to customers including local and national media coverage. We also spoke directly to customers and stakeholders during our launch event and at the Cambridge County show on 5th and 6th August 2023 where we held lengthy interactions with over 300 customers.



Our target is a reduction of 500,000 litres per day (0.5Ml/d) on expected usage during the campaign (July – September 2023). Our final results will be determined by benefit modelling of household metered consumption data. We will audit these results and share our findings Q3 2023/24. We will also measure awareness of our campaign via a survey and incorporate our customer feedback and lessons learned into future campaigns.

The results of this campaign are currently being measured (the campaign is due to finish on 29 September 2023). However, interim results are very promising. The total reach of the behavioural change campaign over eight weeks is approaching to five million people, across online, print, radio and television.

2 Community campaigns



- Here for you – affordability support and metering driver
- Water on wheels – CAM presence reaching all customers in our community
- Care Leavers Covenant – working with young adults leaving the care system
- In place of person – covid infographic boards
- Stakeholder reach – updating on new initiatives through regular communication
- Webpage improvements – Mapping water on wheels so customers have location visibility
- Email campaigns – pre annual billing Here for you, static and planned engagement

Our company represents two network areas and our regional presence is important to our customers. Alongside our mass communication activities, we have tailored our engagement approach to ensure we can also connect with our customers on a community level and deliver high quality, hyper local messaging relevant to their needs and circumstances.

This area of our water efficiency customer communication strategy had to evolve the most during and after the Covid-19 pandemic. Our high street hub in the South Staffs region, part of our commitment to customer engagement and designed to be an easy and informal way for customers to talk to us about any concerns they may have, closed at several points during government mandated lockdowns – between March 2020 and August 2020, November 2020 to December 2020 and January 2021 to April 2021. Upon reopening, we maintained a focus on promoting water efficiency, but adapted our messaging to ensure we were offering holistic support to our customers and supporting national messaging related to hygiene. We also followed government guidance where relevant including the use of facemasks, screens, and limiting visitors to one person in confined spaces at a time. We functioned as a distribution point for Covid testing kits in the town, liaising with the Public Health Team. To date in AMP7 we have received just under 19,000 customers.

We also pivoted our in presence offerings during lockdowns to ensure we took advantage of digital channels where available. In November 2021, we launched our Cambridge community vehicle - 'Water on Wheels' - to ensure we could reach even more of our customers and provide help and support. We provide an interactive map on our website so customers can see where the vehicle is going to be next and plan to get the support they need.

3 Wonderfully Water.... engagement plan



Our media plan is based on achieving maximum impact in our regions despite our limited team size. Disruptive marketing allows us to create a concept that is a quirky talking point with an important underlying message.

We have used this method to create South Staffs or Cambridge Water talking points in each of the towns we supply and across all of the events we attend. We have also had excellent engagement and awareness raising on social media and via local press growing our organic audiences.

4

Media & PR



Waste not one drop – TV advert

Education – KS2 & KS3 activity for primary and secondary school ages

Social media advertising - low cost improves reach

CAM

Reach

31,408

81.3% of 38,651 target universe.

SSW

Reach

180,899

83.4% of 216,873 target universe.

Our television advertisement – ‘Waste not one drop’ – ran for the first time in the summer of 2022 and was bespoke to the South Staffordshire and Cambridge regions⁴.

Our PCC communications objectives for this campaign were:

- Engage with household customers more effectively on using water wisely, using things like water efficiency audits and giving them free water-saving devices.
- Create a universal pledge with a clear concept.
- Work proactively to provide direct support to vulnerable customers through home visits and simplified processes to ensure we engage with them effectively.
- Launch summer / winter readiness campaigns with information on energy costs.
- Work with local authorities and housing associations about using water wisely.

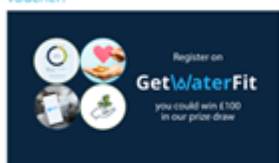
The campaign was so successful with customers that we ran a lessons learned exercise, included our customers’ feedback and re ran a television campaign the following summer (2023).

⁴ <https://www.south-staffs-water.co.uk/about-us/waste-not-one-drop>

5

Stakeholder engagement

Can you 'Get Water Fit' to win a £100 voucher?



Our customers
in our hands
CMEX • DMEX • RMEX

External community organisations

Housing associations

Get Water Fit

Internal campaigns – contact centre drivers

All teams – 'Our customer comms

Third party campaign support – Water wise

Our stakeholder engagement focuses on South Staffs and Cambridge Water playing our role as supporters of our communities and stewards of our local environment. We are committed to supporting industry wide water efficiency efforts, including Waterwise national campaigns, sector roundtables and local forums particularly on the issues of environment, sustainable housing development and water quality.

3.1.4 Building our organisational capability to do more

AMP7 began with one of the biggest challenges the water industry has had to overcome in recent decades. We recognised the Covid pandemic had impacted our regions and placed an enormous challenge on us as a company to deliver more than we had planned. We needed to be agile, responsive and listen to what our customers were telling us they wanted us to prioritise. But we also wanted to build long term capability in our business, recognising that the challenge of PCC reduction is one we need to meet to achieve long term supply / demand balance targets.

We had identified key skill and capability gaps as part of our PR19 business plan submission and have bolstered our teams with additional roles in community engagement and additional plumbers added to our field teams. This was part of a planned increase in our ability to serve our customers with water efficiency support.

Following the pandemic we also recognised that it was vital to reassess the PCC programme and the wider projects we are delivering with the goal of understanding how activities may need to be adapted so they could continue to meet targets.

In February 2023 we asked Skewb to undertake a review of our current delivery plan and provide well evidenced recommendations for future ways of working. Using a bespoke evaluation framework, Skewb conducted a strategic review of the existing PCC programme and assessed existing activities against potential new projects, in collaboration with South Staffordshire's water efficiency teams. The assessment included:

- Evaluation of each of our inflight projects using a consistent structured methodology.
- Use of Skewb's SME knowledge to complete a horizon scan of what others were doing across the water industry and beyond to maximise opportunities for our programme.
- Use of robust analytics to understand how best to target future opportunities.
- Completion of interviews with team members.

- Completion of research to help make sure we apply a deep understanding of PCC from across the sector.

By reviewing, assessing and incorporating findings from sector research Skewb has benchmarked our PCC programme against UK water industry best practices. Skewb also looked specifically at opportunities for enhanced measurement of our activity e.g. using AI models to understand the impact of ‘hard to measure’ activities such as targeted campaigns. The final output of the evaluation review was a refined AMP7 delivery plan which included recommendations on which activities should be added, stopped or enhanced to obtain maximum benefit and deliver a stronger end of AMP PCC performance.

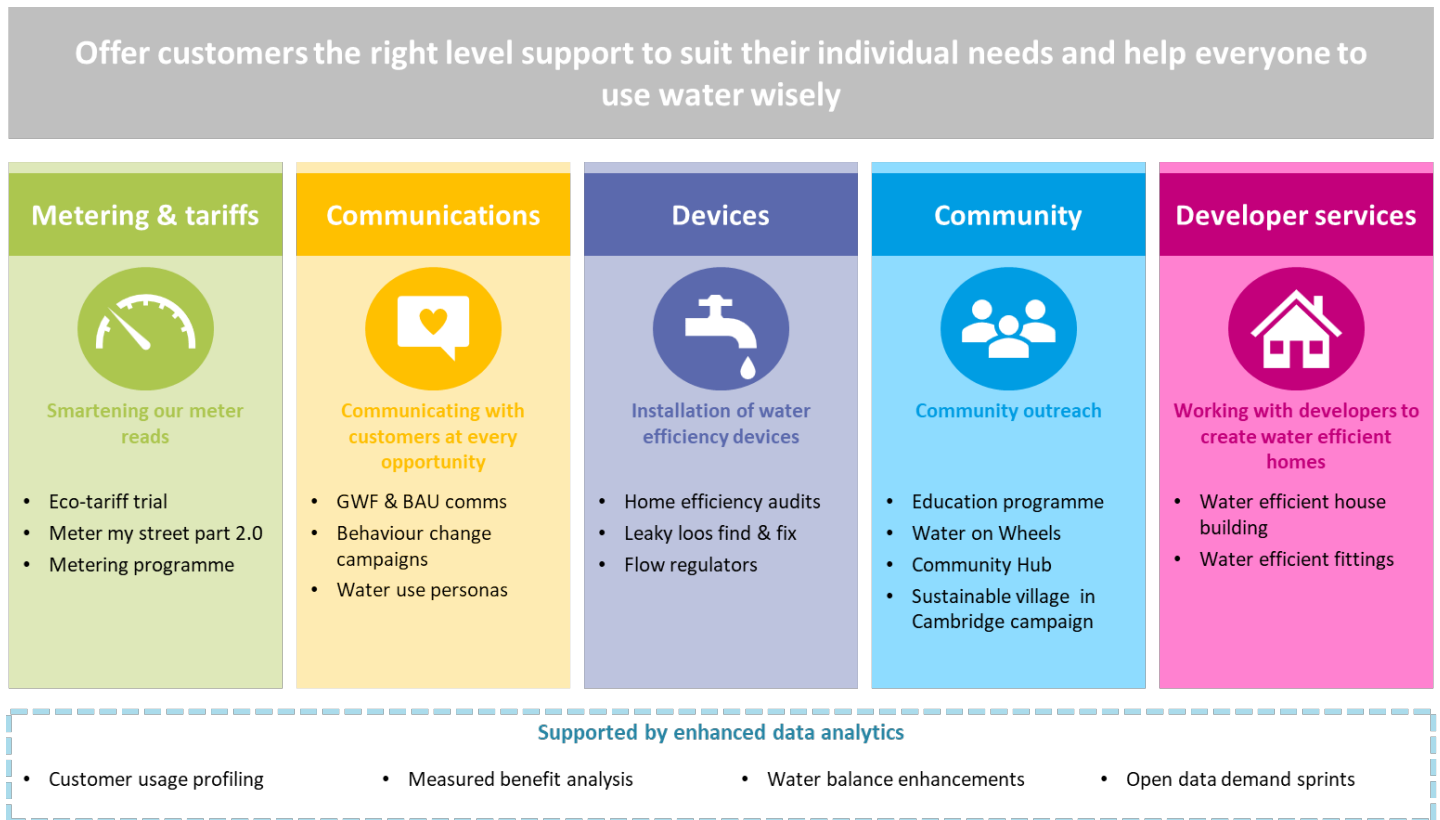
Our Board signed off the proposed approach in March 2023 and Skewb have been supporting us to deliver the recommended activities whilst sharing their knowledge with our teams to build internal capability.

3.2 Activity for 2023/24 and 2024/25

To deliver strong performance in the remaining years of AMP7 and set the organisation up for success with an AMP8 PCC strategy, we have been working closely with Skewb. The refined and enhanced AMP7 PCC delivery plan is built on the strong foundations we established at the start of AMP7 but is also built on customer insights and reflects our lessons learnt as a business.

We can be confident that we are undertaking the right activities as our AMP7 delivery plan was created using a robust, evidence-based process and we are actively monitoring the impact of each of our projects on our key performance measurement – reduction in PCC.

Figure 11: our AMP7 delivery plan



Our plan is to scale previously delivered but small scale innovative initiatives and behavioural change campaigns whilst offering water efficient services to customers via high quality partnerships. We will maintain high levels of customer experience whilst achieving demonstrable PCC reductions.

- **Metering and tariffs** – Whilst our customers were initially sceptical about the benefits of smart metering, our customer research has suggested a mood shift within our customer base (compared to our WRMP19 customer insights). Having received majority support for the approach, we will be rolling out a universal metering over the next 10 years alongside innovative tariffs tailored to our customers' specific circumstances. The PCC programme will support the universal metering roll out by ensuring end to end customer journey support and offering advice on water efficiency as part of the pre and post installation process. Between now and the start of AMP8 we will focus on projects in the South Staffs region (where meter penetration levels are lower) which enhance or increase the frequency of our meter read data.
- **Communications** – For Years 4 and 5 of AMP7 we will expand our marketing activity with even larger media and customer communications programmes. Our strategy will focus on behavioural change which we have trialled in Cambridge via 'Can for the Cam'. We will build on these strong foundations and adapt our messaging in response to external stimuli – such as weather and seasonality indicators and local events – and plan in collaboration with our internal programmes – such as planned works or meter installations.
- **Devices** – We will continue to encourage customers via innovative 'nudge' and 'gameification' tools and techniques to install water efficient devices in their home. We will seek out the latest technologies, devices and assets which provide customers with the water they need whilst helping to promote water efficiency messaging.
- **Community** – Our community presence is important to our customers. We will continue to share water efficiency messages with our wider communities. We're also looking at linking our support with our vulnerable customer offerings to provide additional and targeted support. For example help with repair of leaky loos and purchase of water efficient white goods. Additionally, we will increase our support in our harder to reach communities via our successful Ofwat Innovation Catalyst project 'Water efficiency in faith and diverse communities'. This project will connect us to our communities and faith leaders and better identify their relationship with water how we can best influence behaviours.
- **Developer services** – We remain committed to helping developers explore incentives for them to include rainwater harvesting and greywater recycling within new sites. We recognise that developers have an important role to play when designing and building more water efficient homes now and in the future and that we have an important role to play in encouraging them to do this. As agreed at an industry level, we will deliver in line with the rest of the sector common terms for environmental incentives and adopt a tiered approach based on water efficiency, water recycling and water neutral / positive development.
- **Supported by enhanced data analytics** – The activity we have proposed is enabled by enhanced use of data analytics. We will better target our initiatives via customer usage profiling. We will focus on customers with higher than average usage or those in postcodes that saw the greatest increase in household usage during the Covid-19 pandemic. We will measure the benefits of our activities using advanced analytics and insights tools including the use of AI modelling. We will thoroughly audit the results of our projects, using a three level assurance approach so we can be confident in the benefits we are stating. And we will include unique and novel data sources such as 'open data' sets in our data driven approach moving forward so we are acting on the latest insights, information and trends identified by others.

We will present the results of our activities at industry forums to share our learnings and collaborate with our peers.

Our overall success measures for Years 4 and 5 are:

- PCC / PHC reduction
- Customer behaviour change – customers & communities using less water
- Effective engagement in and support for initiatives aimed at reducing consumption
- Bill reduction
- Partnership delivery

4. PCC underperformance incentive abatement

This document has evidenced the impact on household consumption in our two regions as result of the unforeseen Covid-19 pandemic which occurred primarily between April 2020 and March 2022, but which has had lingering impacts particularly in our South Staffs region.

We have also evidenced the activity we have undertaken across the first three years and that which we are still going to deliver in the remaining two years.

We have demonstrated that the immediate impact was acute for the whole sector, but affected our South Staffs region by more than any other company across 2020/21, 2021/22 and 2022/23. We have demonstrated the rationale for this different impact compared to our other region and to other companies, which is as a direct result of a customer dense region of our supply area being closely flanked by two major commuter cities within Severn Trent's supply area. With external consultancy support, through a machine learning model, we have demonstrated that the counterfactual position had Covid not occurred would have been that PCC would have remained broadly flat. Given this, the planned activity and expenditure would most likely have been sufficient to meet the 1% reduction target in South Staffs region, but in the Cambridge region with a larger reduction target, this was more uncertain and we may not have achieved that 6% reduction target in full.

Without abatement, we have currently accrued a total underperformance penalty of £7.84m on PCC across the first three years of the period, as shown in the tables below for each region (£7.174m for SST, plus £0.666m for CAM). Including forecasts of the remaining two years, where PCC remains high in South Staffs region but has broadly returned to baseline in Cambridge, this is a total penalty forecast of £13.371m, also shown below (£12.436m for SST, plus £0.935m for CAM).

Table 4: Currently accrued penalty and forecast total penalty for PCC performance commitments in AMP7, for each region

SST region	Actual						Forecast	
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual annual PCC, and forecast	127.5	131.6	126.5	150.8	149.0	142.9	141.3	140.3
3ya baseline			128.5					
PR19 PC reduction target, in %				0.4%	0.5%	0.7%	0.8%	1.0%
PR19 target converted to l/person/d from 3ya baseline				128.0	127.9	127.6	127.5	127.3
Actual and forecast PCC, in 3ya terms				136.3	142.1	147.6	144.4	141.5
Underperformance to target				8.3	14.2	19.9	16.9	14.2
Penalty incurred at -£0.169m per PCC unit				-1.400	-2.403	-3.371	-2.855	-2.407
Total penalty to 2022/23, and to 2024/25					to 2022/23:	-7.174	to 2024/25:	-12.436

CAM region	Actual						Forecast	
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Actual annual PCC, and forecast	137.4	140.0	127.0	150.4	141.0	135.9	127.5	127.5
3ya baseline			134.8					
PR19 PC reduction target, in %				0.012	0.025	0.037	0.05	0.063
PR19 target converted to l/person/d from 3ya baseline				133.2	131.4	129.8	128.0	126.3
Actual and forecast PCC, in 3ya terms				139.1	139.5	142.4	134.8	130.3
Underperformance to target				5.9	8.1	12.6	6.8	4.0
Penalty incurred at -£0.025m per PCC unit				-0.149	-0.201	-0.316	-0.169	-0.100
Total penalty to 2022/23, and to 2024/25					to 2022/23:	-0.666	to 2024/25:	-0.935

This level of penalty is far beyond the risk envisaged at PR19, where the data history and realistic risk scenarios available at the time indicated minimal volatility and we were satisfied that the P10 and P90 risk levels at the time were only in the order of ± 1.6 litres per person per day of the target level in both regions. These P10 and P90 values, expressed in terms of penalty and reward monetary values, were provided at the time of the PR19 business plan in table App1, as shown below.

Table 5: PR19 table App1 showing business plan P10 and P90 forecast risk range for PCC performance commitments⁵

Region	Unit	P10/P90	Incentive					
			rate £m	2020/21	2021/22	2022/23	2023/24	2024/25
SST PCC	Per litre/person/day	P10 penalty	-0.092	-0.145	-0.145	-0.145	-0.145	-0.145
CAM PCC	Per litre/person/day	P10 penalty	-0.092	-0.145	-0.145	-0.145	-0.146	-0.145
SST PCC	Per litre/person/day	P90 reward	0.064	0.102	0.102	0.102	0.102	0.102
CAM PCC	Per litre/person/day	P90 reward	0.064	0.102	0.102	0.102	0.102	0.102

The perceived stability of PCC was the reason that we did not consider it necessary to propose any reward caps or penalty collars on PCC at the PR19 plan. Subsequently, Ofwat intervened in PCC performance commitment levels and incentive rates, but did not intervene in our proposal not to include caps or collars. Eight companies did have penalty collars set however, and across the board Ofwat intervened to implement a 5% (from baseline) penalty collar on leakage, to reflect the volatility that was considered reasonable due to the impacts of weather on the measure. For PCC however, in hindsight it would not have been reasonable to expect a scenario such as the Covid pandemic to have been considered, by either companies or Ofwat, as there was simply no precedent for such an extreme scenario. Of the eight companies that had penalty collars applied, three of these would have been triggered in 2020/21 but none in 2021/22 or 2022/23.

We have evidenced in this document that without the impact of Covid on our region, we could at most expect to have remained broadly flat for PCC over the period. If this had been the case, the actual profile against targets and penalty position would have been a total of £1.728m, as follows.

⁵ Note that table App1 was originally provided at the time of the initial business plan submission in September 2018. At this time our proposals assumed the same incentive rates and risk range for both regions, but this was later superseded by Ofwat's interventions in targets and incentive rates. We have provided this data from September 2018 to demonstrate the initial view that the perceived risk range for PCC was very narrow.

Table 6: PCC profile and penalties had Covid not occurred and PCC had remained flat

SST region	Actual			Forecast	
	2020/21	2021/22	2022/23	2023/24	2024/25
Flat actual performance at 2019/20 baseline	128.5	128.5	128.5	128.5	128.5
Actual 3ya performance	131.8	127.8	128.5	128.5	128.5
Performance commitment target in l/person/d	128.0	127.9	127.6	127.5	127.3
Penalty based on flat baseline performance	-0.642	Reward	-0.152	-0.174	-0.217
Total penalty to 2022/23, and to 2024/25		to 2022/23:	-0.794	to 2024/25:	-1.185

CAM region	Actual			Forecast	
	2020/21	2021/22	2022/23	2023/24	2024/25
Flat actual performance at 2019/20 baseline	134.8	134.8	134.8	134.8	134.8
Actual 3ya performance	133.9	132.2	134.8	134.8	134.8
Performance commitment target in l/person/d	133.2	131.4	129.8	128.0	126.3
Penalty based on flat baseline performance	-0.018	-0.019	-0.125	-0.168	-0.212
Total penalty to 2022/23, and to 2024/25		to 2022/23:	-0.162	to 2024/25:	-0.543

Note we have ignored the brief reward which occurs in South Staffs region in 2021/22 for the purposes of this calculation, we are not claiming that we should receive any reward credit for PCC at all in this representation, as that would be inappropriate given the circumstances. Indeed we also believe that had an external event of the scale of Covid caused PCC to step change in the other direction, benefiting ourselves or other companies, we would expect to abate that reward windfall also, and we would expect that Ofwat would have also considered this the appropriate action to take.

However as we have evidenced, prior to the Covid pandemic, customers in the South Staffs region were one of the lowest consuming groups in the country and due to this position we had a 1% reduction target to deliver over the period. It is likely that our planned activity would have achieved that target. However in Cambridge, with a tougher 6% reduction target over the period, it is more uncertain that this would have been achieved. The table below shows the penalties which would have applied had we met our target in the South Staffs region, but not achieved any of the reduction target in Cambridge, which total to £0.543m.

Table 7: PCC profile and penalties assuming Covid had not occurred, and that we met PR19 targets in SST but not in CAM

SST region	Actual			Forecast	
	2020/21	2021/22	2022/23	2023/24	2024/25
Zero penalty in SST by meeting the 1% target	0.000	0.000	0.000	0.000	0.000
Penalty in CAM by staying flat at baseline	-0.018	-0.019	-0.125	-0.168	-0.212
Total penalty to 2022/23, and to 2024/25		to 2022/23:	-0.162	to 2024/25:	-0.543

This is also a conservative assumption, as we would in practice have otherwise expected to make some progress towards achieving targets in Cambridge even if we did not fully meet them. There is no accurate way of estimating this however, as the events which actually occurred were completely different.

The data above shows that the penalties we are currently facing are far in excess of the risk range envisaged at PR19 and the scenarios which would have played out if Covid had not occurred. Clearly, we, nor the wider sector, did not and could not have reasonably foreseen a global pandemic acutely impacting the water consumption behaviours across our whole customer base, indeed across the whole country. The event and its impacts have been fully outside of our control despite the continuation of our originally planned PCC activity, and an increased focus on PCC reduction activity since these impacts materialised.

The PR19 performance commitments were set based on historical data, benchmarking company ambitions and water resources plans with those of other companies, and reviewing, by means of enhancement deep dives, the activity and expenditure plans that we proposed to deliver across the period. At March 2020 when Covid lockdowns first struck, the assumptions that underpinned these proposals were made redundant by the events which unfolded, which materially altered the underlying circumstances.

As a result, we have seen PCC be acutely impacted, and application of the PR19 penalties to this new level of performance is unreasonable, punitive compared to the scale of other under- and out- performance incentives in the period, and does not fairly

recognise the impacts of these events that were wholly outside of our control. There would be a significant impact on actual financeability if the full penalty was to be applied.

Our PR24 business plan, therefore, includes the PCC penalties set out in table 7 above of £0.543m, with abatement of the amount above this. This is based on the expectation for the level of PCC and the performance against the PR19 targets had Covid not occurred. Our plan fully abates the element of performance which is wholly due to Covid as we have demonstrated its impact on both regions but particularly on our South Staffs region which clearly has some unique circumstances regarding commuting across our boundary, that has led to a greater and more sustained impact on this region than any other company.