

Appendix 5

Efficient costs

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Appendix 5 Efficient costs

A5.0 Overview

In this chapter we provide an overview of how we're building on AMP6 performance and the operating expertise to deliver 9% efficiency in our PR19 wholesale plan and 12% on our 2025 retail cost to serve. We'll explain how work is already underway on securing the right trajectory to achieve these ambitious targets.

We're fully supportive of the incentive environment created by Ofwat. The clear link between the levels of service we provide, the efficiency of our delivery and the amount we charge our customers has encouraged us to think differently about how we work. It's encouraged us to develop a sharper focus on improving customer service and efficiency in a way we can sustain. It is also critical that we lock in the efficiencies that were forecast as a result of the licence change.

We know we need to do things differently to achieve the required cost savings. This includes:

- Removing waste from our processes through the application of well-established approaches and tools such as lean manufacturing and Six Sigma;
- using smarter technology to reduce waste by proactively identifying potential issues before they became problems;
- becoming more energy efficient; and
- working with our supply chain partners to identify innovative solutions.

Following realignment of the operating area we are incorporating new technologies and sharing best practice approaches between the two former companies, whilst continuing to use tried and tested approaches that have proven to work well. Where appropriate we have been identifying new ways of doing things to operate more effectively and making more of the totex framework to identify optimal solutions.

A5.1 AMP6 performance

We are forecasting a total AMP6 variance of around 8% higher than the final determination. In chapter 4 accounting for past performance we set out the factors that we have been balancing to ensure we deliver on all of the PR14 (and subsequent changes through the NAV) commitments to our customers. This includes details of efficiency savings that we have made, additional benefits we have delivered and areas where we have experienced cost pressures.

Retail costs have increased due to the improvements in customer service being offered to HDD customers, for example a 24/7 service offering.

A5.2 Building efficiency into our AMP7 plan

Our PR19 Plan across the wholesale price controls reflects an efficiency of 9%. As shown in Appointee Table 24a, our wholesale efficiency will need to offset a 1% real price cost pressure from increases in energy prices, rates and construction labour costs driven by the demand for skilled workers.

The substantial cost efficiency improvements in our PR19 Plan sit alongside much more stretching performance commitments we're delivering for our customers. Given this, the comparison with PR14 efficient benchmarks provides a very conservative view of the improvements in value for money for our customers that our PR19 plan provides.

Our PR19 efficiency is in line with Ofwat expectations

Ofwat have been working with KPMG to look at the potential for further efficiency savings within the sector. KPMG presented to an industry workshop in March 2018, suggesting a headline efficiency challenge of between 1% and 3.7% per annum for PR19.

Our wholesale efficiency of 9% is within this range - and this is before we factor in the impact of moving from RPI to CPIH inflation. The latter is being used for PR19 which effectively results in efficiency values appearing to be lower than in PR14.

A5.3 External benchmarking

Benchmarking can provide an external and independent perspective on how costs compare with others, both inside the water sector and from wider afield. A wide range of studies is needed to avoid potential bias from not comparing costs on a like-for-like basis.

We've used a series of benchmarking studies, commissioned by Severn Trent, given that a large part of our costs are shared, and commissioned via linked contracts, enabling synergy benefits to be realised. These reports include repeating analysis originally carried out at PR14, to provide a consistent and comparable dataset. The analysis undertaken has helped us to find and prioritize specific areas of opportunity to build into our PR19 efficiency plans. The results of our benchmarking analysis are summarised below.

Arcadis showed our costs remained competitive and highlighted areas to target for AMP7

We engaged Arcadis to provide an updated benchmarking assessment across six areas using a consistent approach to the one they used five years ago (which Severn Trent submitted the report as part of its PR14 Plan). We needed to retain commercial confidentiality as Arcadis were supporting bidders in our ongoing AMP7 capital framework tender process. As such, we asked Arcadis to inflate our PR14 costs by RPI and compare these with their extensive database containing latest market data.

We then overlaid the Arcadis analysis with our latest, pre-efficiency cost curves and used the results to shape our PR19 efficiency plans. Our AMP7 tender process will be completed later this year and this analysis will be used to assess cost submissions received.

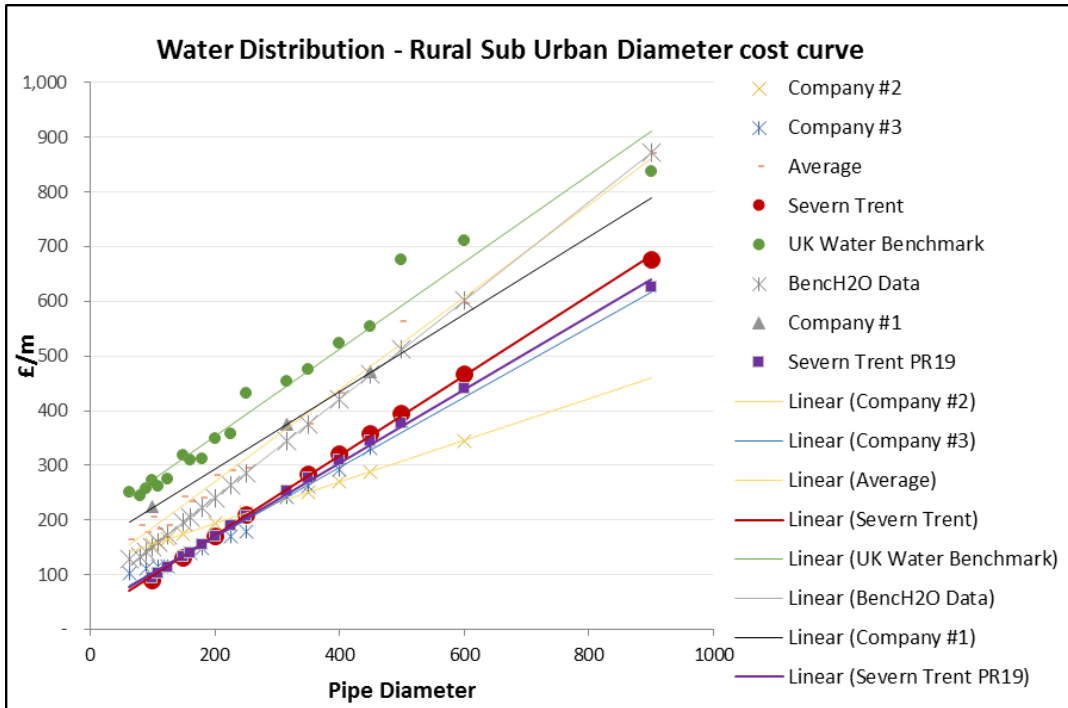
How to interpret our summary charts

The full Arcadis report is has been included as part of our submission. They've used red to identify our RPI-inflated PR14 costs, which they've then compared to linear extrapolations from benchmark data drawn their Bench20 database.

We've then taken this analysis and, using a consistent approach, provided an assessment of our curves using our latest view of contract costs. This is shown clearly in purple.

The distance between the red and purple lines provide a clear indication of how competitive our costs are against benchmark data. We've followed this approach for each of the six areas analysed.

An example chart, with full key, showing our RPI-inflated PR14 data in red and latest costs in purple:

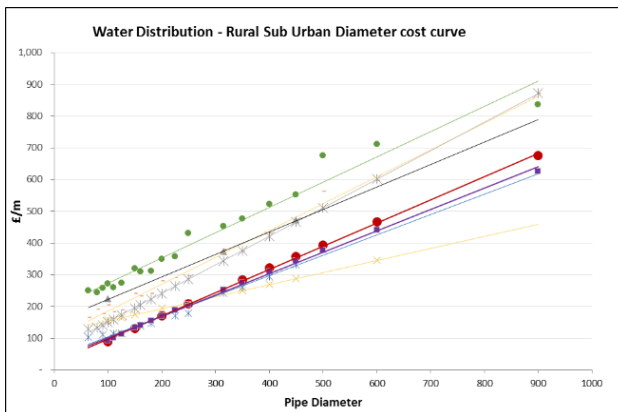


Area (and approximate construction cost covered)

Arcadis assessment
(SVT = red line)

How we've used the benchmarking analysis
(Purple line shows our pre efficiency PR19 costs)

Water distribution



Potentially industry leading when addressing the replacement of smaller diameter mains

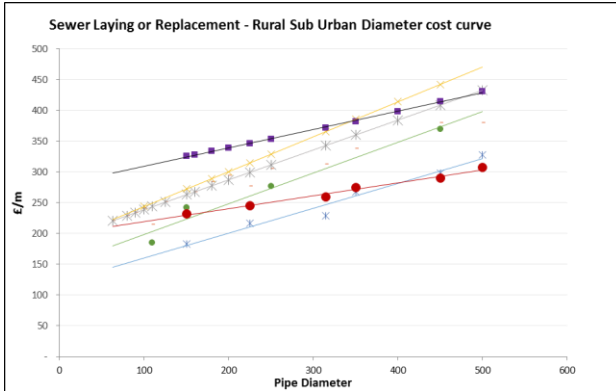
Our curves showed further efficiency delivered through AMP6. But we've increased efficiency rate in our PR19 Plan to offset the upward cost pressures observed by Arcadis.

Area (and approximate construction cost covered)

Arcadis assessment
(SVT = red line)

How we've used the benchmarking analysis
(Purple line shows our pre efficiency PR19 costs)

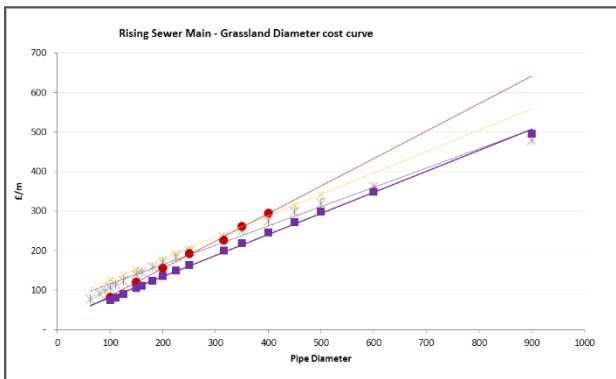
Sewer laying



Strong performance from SVT, with indicative costs well below the industry benchmark based on first pass

Our cost curves have increased significantly, driven by complexity of sewer flooding schemes and higher costs for working in highways compared to grassland. We were surprised by the extent of change but have used this to increase the efficiency built into our PR19 plan. This should enable us to remain well below the industry benchmark.

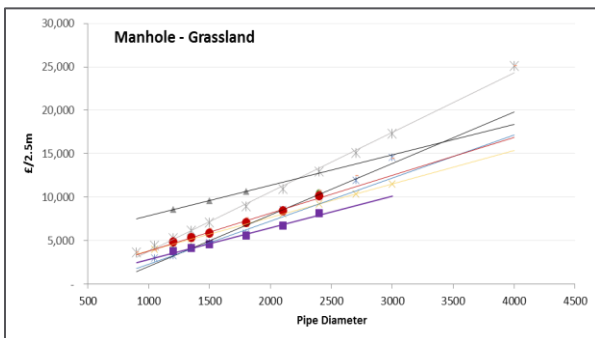
Rising sewer main



Large diameter replacements present opportunity for cost efficiency for SVT

Our cost curves show a reduction in the cost of large diameter rising mains and brings the costs below the Arcadis benchmark data. Despite this, we have increased the efficiency in our PR19 plan to offset the upward cost pressures observed by Arcadis.

Manholes



Performance is close to industry average, giving scope for efficiency improvements

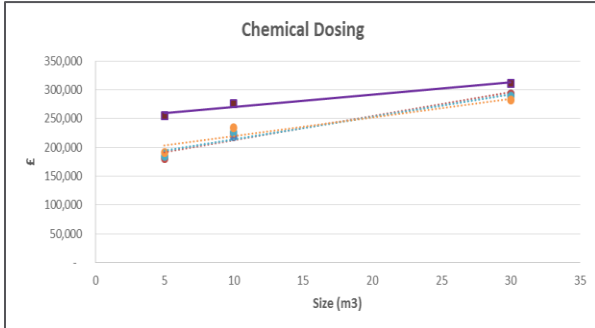
Our cost curves show a marked improvement against Arcadis analysis. However, given the linkage with sewer laying costs, we've used this to increase the efficiency built into our PR19 plan to enable us to remain well below the industry benchmark.

Area (and approximate construction cost covered)

Arcadis assessment
(SVT = red line)

How we've used the benchmarking analysis
(Purple line shows our pre efficiency PR19 costs)

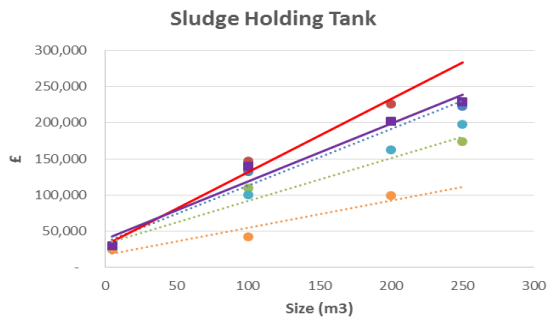
Chemical dosing



SVT performed in line with the industry average

Our cost curves show an increase in costs in this area. It is difficult to benchmark these site specific costs but we have observed efficiencies in our AMP7 tendering process which would put us back in line with the average – these have been built into our PR19 plan.

Sludge holding tanks



Possible scope for efficiency improvements, subject to a further review of input costs

Our cost curves shows a 10% reduction in the cost of sludge holding tanks, but this would still leave us in a position where we could be exceeding competitors in this area. We have observed efficiencies in our AMP7 tendering process which would put us back in line with the average – these have been built into our PR19 plan.

Turner & Townsend (T&T) have confirmed our capital programme general costs are efficient

We asked T&T to assess the cost efficiency of general recurring project costs such as upfront feasibility, investigative contracts and project management (defined as owner team costs by T&T), design costs and overhead costs. Severn Trent Costs were compared to both other Water companies and other sectors (Rail, Highways, Environment, Telecoms, Aviation and Power). Again, as a significant proportion of Hafren Dyfrdwy costs are recharged from or contracted in line with Severn Trent Water costs, we believe that the results of this analysis, shown below, indicate that our future costs are also relatively efficient:

| Sector | % addition for capital overhead |
|---------------------|---------------------------------|
| Telecoms | 8.03 |
| Water | 7.03 |
| Power | 6.82 |
| Water | 6.25 |
| Rail | 6.20 |
| Petrochemical | 5.36 |
| Severn Trent | 5.19 |
| Power | 2.88* |

| Sector | Design costs as a % of total project |
|---------------------|--------------------------------------|
| Rail | 7.52 |
| Environment | 7.50 |
| Power | 7.50 |
| Highways | 7.33 |
| Aviation | 5.48 |
| Water | 5.34 |
| Severn Trent | 4.10 |

| Sector | Owner costs as a % of total project |
|---------------------|-------------------------------------|
| Power | 11.02 |
| Rail | 10.45 |
| Severn Trent | 7.42 |
| Water Clients | 7.26 |
| Road | 5.77 |
| Aviation | 5.72 |
| Environment | 4.80 |

* Note Power is mainly outsourced model and so comparison may not be representative

The scale of Hafren Dyfrdwy makes it difficult to use econometric models to test the totex in our PR19 Plan

While we developed econometric models, we've found that these are extremely sensitive to even the smallest changes in the variables, and produce inconsistent results (both on the upside and downside). Nevertheless, we have applied top down efficiency challenges as well as building up detailed bottom-up initiatives. This approach provides a holistic view of efficiency and recognises that there may be further scope for efficiency that may not necessarily be captured by a bottom up assessment of identified interventions.

Our AMP6 experience has shown us that there is no one 'silver bullet' to delivering efficiency. We'll continue to use a number of levers to drive efficiency to deliver sustainable cost reduction. Each of these is explained in more detail below.

A5.4 How we plan to deliver AMP7 efficiency

Continuous Improvement

Continuous improvement is a key and invaluable part of our efficiency delivery framework across all of our price controls. To deliver sustainable cost reduction we need a consistent approach for improving on current performance and this will continue into AMP7.

Within the retail price control, we will look to continuously improve our customer experience in the following areas:

- Through better online services more customers will be able to web self-serve (where they wish to – not mandatory) and our multi-lingual customers will be able to access online translations of bills and notices;
- New technology and automation of our back office activities will improve our customer experience by reducing handoffs and increasing the speed of customer resolution;
- Customer segmentation through increased analytics will enable tailored customer journeys with appropriate payment channels of choice. Communications can be focused on certain segments ensuring customers do not get irrelevant communications;
- Multi-skilling of our contact centre employees means that customers will be able to discuss all enquires with one person rather than being passed between departments; and
- Working towards paperless billing & communications where it is a customer preference;

Within our Wholesale price controls our continuous improvement activity focuses on five key areas:

1. Energy is a key part of our cost base, and with prices forecasted to rise by around 45% in AMP7, it is an important area of focus. We plan to deliver efficiencies in this area through a combination of hedging, capital investments and incremental efficiency improvements at our treatment works.
2. We have introduced the concept of factory thinking for our wastewater plants. Severn Trent is already pioneering urban catchment with a flagship project near Redditch. In AMP7, we will consider this approach across our wastewater plants.
3. We are driving further insight and analytics into our cost base. We have developed site by site cost statements that allow us to benchmark ourselves internally and continually challenge our efficiency.
4. We are focusing heavily on proactive asset management as a means to reduce the associated opex cost of failure from reactive work and to increase the life of our assets.
5. Greater use of collaborative and partnership working.

Cultural change

The Severn Trent Group Commercial team have introduced better procurement methods and ideas that have made a large contribution to our AMP6 success across the group. The team has helped establish a more commercial mind set throughout the organisation - monthly supplier reviews with the commercial team and operations are now commonplace and a fundamental part of ensuring we maximise the value from our contracts.

We have developed training focussed on outcomes and regulatory price controls and employee communications are focussed on cost and efficiency.

We've also introduced an annual 'Challenge Cup' competition where employees are invited to submit ideas for cost efficiency. This provides an opportunity for people to put forward ideas with the promise of executive sponsorship and funding to put winning concepts into action.

Raising the bar on our commercial and procurement capability

We've improved our commercial and procurement activities by setting up a dedicated contract management function and have restructured and retendered all our main contracts eliminating unnecessary costs, aligning performance objectives to our customers and simplifying our processes to be more effective in our interventions.

We use a continuous improvement approach to find ways of further reducing costs and improving customer outcomes within the contract including:

- Working with suppliers to take cost out rather than supplier margin erosion. Where we have multiple contracts with the same supplier we have removed duplication and centralised activity across the group (e.g. Traffic Management, Planning and Scheduling);
- Moving to a common IT platform to improve visibility and reduce the cost of double handling;
- Using gain share mechanisms to support continuous improvement projects within the contract term; and
- Refining incentive mechanisms annually to ensure that we are focused on efficiency and improving customer outcomes. We will continue to do this in AMP7 and learn from other industries.

We have worked hard in AMP6 to collaborate with our suppliers to reduce their overheads in the servicing of our contracts. We have done this in a responsible manner, for example we have looked to offer improved payment terms and procure materials on behalf of suppliers to leverage our working capital and buying power where cash flow is an issue. We will continue to reduce overheads within the supply chain in AMP7 through system investments and automation, improved ways of working and reduced cost of failure.

In AMP7 we will use all of our positive learnings from AMP6 and build on them. We will continue to do things such as driving standard products so that we can design once and use many times, batching, collaborative planning and lean processes. On capital batching specifically we see this as a big opportunity we can do more on in AMP7. For example we batched Rapid Gravity Filters (RGF) work together, and have reduced the time it takes to refurb an RGF by 50% from c30 days to c. 15days. We see there remains significant scope for more opportunities like this for AMP7 if we batch work in the right way.

We are establishing a new supply chain for Year 5 of AMP6 and the whole of AMP7. The supply chain for delivery of capital investment in AMP7 is currently being secured through a commercial tendering process aligned to our AMP7 strategy. We'll also deliver larger capital schemes using in-house design, which will give us more control over efficiency. We also believe it will enable us to design for outcomes more closely.

We are changing the way we work with the supply chain, so that we work with a combination of tier 1 and tier 2 suppliers, which we believe will allow us better access to innovation deep in the supply chain, as well as contracting directly with the experts we need. This is a more complex operating model but we believe that in addition to innovation benefits it will also spread supply chain risk for us, especially considering the rural nature of some of our region.

We are also investing in our systems to give us additional control and visibility of our capital programme, as well as improved understanding of our costs and the costs within our supply chain. We recognise the risk associated with the large scale change of replacing contract partners and have a rigorous governance process to ensure that risks are managed and mitigated effectively.

Use of Markets

Where possible we use existing available markets to both minimise risk and drive efficiency. From an energy perspective we will gain the benefit of the Severn Trent buying power and have partnered with an external energy specialist to strike the right balance between locking out risk and strategically managing our open forward positions to deliver savings vs the market. Based on our most recent data share, our analysis demonstrates that Severn Trent already achieves the lowest £/Mwh within the sector. This lower price will now be available for Hafren Dyfrdwy.

Innovation

Innovation is an integral part of our efficiency delivery method and is reinforced in our culture. We have looked outside our sector to build what we believe is a best-in-class innovation model.

Severn Trent commissioned a global benchmarking exercise to capture how leading companies (including Pfizer and Philips) approach innovation. Severn Trent subsequently adopted a model that includes a team with specialist innovation management roles and is unique within the UK water sector. These innovations are also being rolled out within Hafren Dyfrdwy where appropriate.

As well as introducing innovation that delivers cost efficiency, Severn Trent has also introduced a number of innovations to meet compliance changes under the Water Framework Directive, introducing a number of innovations across secondary treatment and phosphate removal that deliver the outcomes we require in the most cost efficient way. Moving into AMP7 we will start to introduce new technology and innovation based on successful pilots from the current AMP across Severn Trent and Hafren Dyfrdwy.

Technology

We are delivering a variety of technology solutions across our price controls that when scaled in AMP7 will be a key part of our efficiency programme.

We're developing our data analytics capability to become a truly insight driven organisation and we are using advanced analytics in a number of areas of our business. We are currently piloting leakage analytics which will enable us to find leaks up to 50 days earlier than our legacy leakage find processes. The Severn Trent pilot has also shown the potential to reduce the time taken to find the exact location from an average of two days to as little as two hours. We will be rolling this out to the rest of the organisation over the coming months to maximise the opportunity in AMP7.

Supporting both our water and wastewater price controls, within our planning and scheduling department we are rolling out a technology called Sitemate which has increased fieldworker productivity by creating efficiencies in the job workflow process. As a direct result of Sitemate we have saved 20 minutes per inspection job through improved traffic management planning.

Within Retail, by bringing HD customers onto the ST systems they benefit from the implementation of a Customer Management Portal which has consolidated information from multiple systems onto one screen and subsequently reduced operational call handling time.

In AMP7 we will scale the successful technology pilots and continue to deploy technology to reduce cost and improve the service we provide to our customers.

Continued focus on managing bad debt

In the next AMP we will focus on getting HD to UQ performance on bad debt by getting more out of the system and the data investments we are making in the current AMP. For example, undertaking predictive analytics on our credit reference agency data share that will;

- improve the data we hold on our customers;
- identify early warning signs of problem payers; and
- tailor our collection approach to different customer segments.

Our investment in an outbound dialler solution which uses credit reference agency data will allow us to be more effective and efficient in our targeting.

Ofwat expects water companies to show ambitious targets for efficiency in line with best in class companies for delivering a given activity/service. This means we are not compared only to other water companies, but our benchmark should include other utilities and construction companies.

We cannot ignore Ofwat's challenge in relation to the performance of other industries. It is worth noting that the water industry presents some unique challenges compared to that of energy and telecoms:

- I. The water industry regulatory framework gives the same weighting to all customers, so the customer service levels given to customers who won't pay must be the same as the levels given to paying customers. Water companies are likely to prioritise service to all customers over debt collection routes, compared to other businesses that have no incentive to prioritise customer service to poor payers as they will not want to retain these customers;
- II. Water supply cannot be turned off. While the energy industry can legally turn off their supply this is unusual, but they can and do put poor payers on pre-paid meters.
- III. The water industry is obligated to supply and bill everyone, whereas the telecoms industry are under no such obligation, and won't supply if they aren't paid.

While we acknowledge that these characteristics make achieving the levels of bad debt performance observed in the energy and telecoms industries challenging, we are implementing a variety of activities to improve our debt performance in AMP7. These include:

- Recognising that the water industry is significantly behind on leveraging technology, we will continue to build on the good improvements we are making in this area in AMP6. For example, the new web self-serve option which improves customer experience as well as improving collection rates;
- Encouraging measured customers to pay by monthly direct debit in advance to spread the cost of their bill which also mitigates the debt risk to us; and
- Using an outbound dialler solution to improve routine collections and Field Collections for Late Stage Recovery.

We are also looking at the benefits associated with implementing 'mobi-pay' which is a service that sends an SMS or an email to customers, reminding them to pay their bill. The messages also include a unique web link for customers to make a payment.