# UUWR_36

## PR24 Draft Determination: UUW Representation

# Area of representation: Cost and PCD - Smart Metering

**August 2024**

This document outlines our representations on Ofwat interventions to our AMP8 AMI metering programme

Reference to draft determination documents:
PR24 draft determinations: Expenditure allowances - Enhancement cost modelling appendix
Model - Water-Supply-and-Demand-Balance-PCDs
Model - PR24-W-Metering

United Utilities

Water for the North West

# 1. Key points

- **We propose an alternative metering PCD design to avoid driving perverse outcomes and penalising efficient delivery:** The current PCD delivery definition requires 100% of all installed meters to achieve stretching communication standards. Efficiently delivered smart metering programmes across water and energy recognise that around of 20% of smart meters will typically operate at a lower, but still beneficial level of meter read communication. We agree that a PCD should incentivise companies to deliver AMI programmes, but we propose an alternative design to avoid stifling innovation, pushing up whole life costs, and compelling companies to artificially constrain meter fit locations.
- **Enhancement allowance should be allowed in full:** Only £213m of the requested £246m for the installation of 920,891 smart meters has been allowed (pre-efficiency). Since our business plan submission, we have received the indicative outcome of our competitive tender process, which demonstrates that our submitted cost position is efficient when compared to market rates. Limitations in Ofwat cost model design, particularly the limited consideration of important operational context (such as meter fit locations), and an over reliance on a single group of associated companies has resulted in Ofwat unreasonably disallowing elements of our cost allowance submission.

# 2. UUW's PR24 proposal

We asked for £241m of enhancement funding (post efficiency) to fit 920,891 smart AMI meters, made up of 501,140 new installations and 419,751 replacements (250,000 household and 169,751 non-household). The replacements included upgrading an existing 202,000 basic meters and 217,751 AMR meters. We proposed a simple PCD design, with delivery tests focused on numbers of meters fitted.

# 3. Draft determination position

Ofwat has accepted our proposal to fit 920,891 AMI meters and have included the benefits associated with these meters in developing water demand reduction PCLs. Of the proposed enhancement expenditure of £246m (pre-efficiency) Ofwat has included £213m for the installation or upgrading of 920,891 meters. This represents a 13% or £33m reduction from proposals.

Models used by Ofwat imply a unit cost of £348 per new AMI installation, a meter replacement median unit cost of £125 per meter and an AMI 'upgrade' cost adjustment of £75 per meter. Ofwat has used companies' forecast costs to feed cost models, and then benchmarked efficient unit cost allowances against 2021-2022 and 2022-2023 outturn smart AMI cost data from a few companies. This approach hasn't considered variance in companies' proposed mix of meter fit types and meter fit locations despite Ofwat requesting substantial data on these factors as part of the Business Plan and query process.

Ofwat has allowed an uplift to botex allowances of £32m for additional meter replacements above its view of implicit allowance in base models.

Ofwat proposed a time-incentivised Price Control Deliverable. The PCD will:

- **Monitor new AMI enabled meter installations:** the number of AMI enabled meters installed at premises that, prior to such installation, were unmetered.
- **Monitor upgrades to existing meters:** the number of upgrades or replacements of existing meters (basic manual read or automated meter reading) to convert them to AMI enabled meters. This covers the costs associated with the enhancement component of replacing a meter with one with more functionality.
- **Monitor replacement of meters:** The number of meter installations where existing meters (basic or automated meter reading) are replaced with new meters on a like for like basis.

***Table 1: PCD Outputs Cumulative***

| PCD outputs (cumulative) | Unit | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 |
|---|---|---|---|---|---|---|---|---|
| New installations | nr | 0 | 0 | 100,228 | 200,456 | 300,684 | 400,912 | 501,140 |
| Meter upgrades | nr | 0 | 0 | 83,956 | 167,907 | 251,855 | 335,803 | 419,751 |
| Meter Replacements | nr | 0 | 0 | 83,956 | 167,907 | 251,855 | 335,803 | 419,751 |

Ofwat has set out PCD unit rates, separating new installations, meter upgrades and meter replacements.

***Table 2: Non-Delivery PCD Payment***

| Non-delivery PCD payment | Unit | Payment rate |
|---|---|---|
| New installations | £/meter | 347.55 |
| Meter upgrades | £/meter | 75.31 |
| Meter Replacements | £/meter | 125.02 |

***Table 3: Time Incentive PCD Rate***

| Time incentives PCD rate | Unit | Under-performance | Out-performance |
|---|---|---|---|
| New installations | £/meter | 12.72 | 3.18 |
| Meter upgrades | £/meter | 2.76 | 0.69 |
| Meter Replacements | £/meter | 4.58 | 1.14 |

*Source: Ofwat PR24 Draft Determination – Water Supply and Demand Balance PCDs*

There is no flexibility allowed across deliverables. It is not possible to offset under delivery against one delivery type against another. Whilst Ofwat has not split PCDs by type of customer i.e. household and non-household, it expects companies to report on this split against the deliverables.

# 4. Issues and implications

## 4.1 PCD Design

The metering PCD risks penalising efficient delivery and curtailing innovation. The current PCD delivery definition requires 100% of all installed meters to achieve stretching communication standards. Efficiently delivered smart metering programmes across the water and energy sector typically see that around 20% of smart meters will operate at a lower, but still beneficial communication standard.

Smart metering programmes are being put in place to support the delivery of critical industry outcomes, principally in the areas of water efficiency and leakage reduction. Performance Commitments already provide strong incentives for companies to deliver against stretching PCLs in these areas. As such an additional PCD for smart metering should be tightly focused and intentionally limited in scope, acting to ensure minimum outputs are delivered, whilst trusting that established Performance Commitments will deliver the outcomes that customers want.

Given the stretching water efficiency and leakage reduction performance commitments that companies face we believe it would be reasonable to remove the meter connectivity and data completeness tests from the PCD, whilst retaining reporting requirements to support industry development of new AMI shared standards. Failing this we believe that an alternative PCD design is needed. If Ofwat believe that a PCD should incentivise companies to achieve a minimum level of communication operability we propose that it is modified to avoid a number of unwanted consequences, and instead work in conjunction with performance commitment to deliver the key industry outcomes that smart metering programmes are designed to support. Currently the PCD will drive a number of avoidable and unwanted effects, including compelling companies to:

- Only meter in areas with very high levels of network connectivity, limiting benefits to demand reduction and customer experience,

- Constraining communication technology choice to a limited number of technologies, stifling opportunities for innovation and future cost efficiencies,
- Over engineer communication frequency, resulting in reduced smart meter battery life and ultimately higher whole life costs.

We propose an alternative PCD design which we believe would continue to offer customers robust protection whilst avoiding negative impacts on outcomes (principally demand reduction and leakage reduction).

We also provide comments on the proposed interoperability requirement and the application of a PCD to base allowances.

## Issues with current PCD proposals

For an installed, upgraded or replaced meter to count as delivered as part of the smart metering PCD the meter will need to achieve 95% hourly read performance success rates, transmitted every 24 hours, with a minimum acceptable period to report a successful installation being one month. It is expected that once installed an AMI active meter should achieve the stated success rates on average until the end of the reporting period 31 March 2030. This means that all 920,891 meters that UUW fit will each need to individually meet the delivery tests to count towards PCD delivery outputs. The PCD in effect requires 100% of all installed meters to achieve stretching communication standards. This approach raises a number of concerns.

As a general principal care should be taken to set PCD outputs at a level which minimises the risk of the PCD output requirement superseding the true objectives of the investment, principally the targeted outcomes. Overly prescriptive or stretching PCDs risk limiting companies' ability to adapt the structure or design of metering programmes, forcing a focus on delivering outputs at the expense of achieving benefits to targeted outcomes.

On balance, we agree that a PCD for a smart metering programme is appropriate given the innovative and slightly uncertain nature of smart metering programmes, and the fact that many companies expect the majority of benefits over the life of these meters will arrive after AMP8. We agree that a PCD should act to return money to customers where companies do not ensure the projected number of meters are fitted, that those meters are working reliably and able to capture and communicate data at a frequency and granularity which enables the benefits of smart metering to be realised. However, we believe the definition of delivery should be set in a way that enables companies at least some freedom to pursue demand reduction and efficiency opportunities.

By specifying that 100% of smart meters should transmit recorded consumption data at least once every 24 hours with a 95% or higher success rate Ofwat is imposing a highly stretching and constraining requirement on companies' outputs in a manner which is very likely to constrain companies' ability to achieve desired outcomes.

It is vital to recognise that meters that do not transmit data every day are still providing substantial value to customers and operators. These AMI meters are still capturing regular reads, and will often be communicating data back, but at a lower frequency than 95% daily. The data can still be captured and utilised, either via the intermittent transmissions the meters are able to achieve, or via manual capture by the water company. These meter reads still enable a substantial proportion of benefits to demand and leakage reduction to be achieved.

**The PCD requires very high levels of network connectivity**

To date the evidence shows that large scale AMI rollout programmes demonstrate a materially lower level of average successful data transmission, and that average figure includes a range of performance, with some meters communicating with high success, and a smaller number of meters delivering much lower levels of transmission.

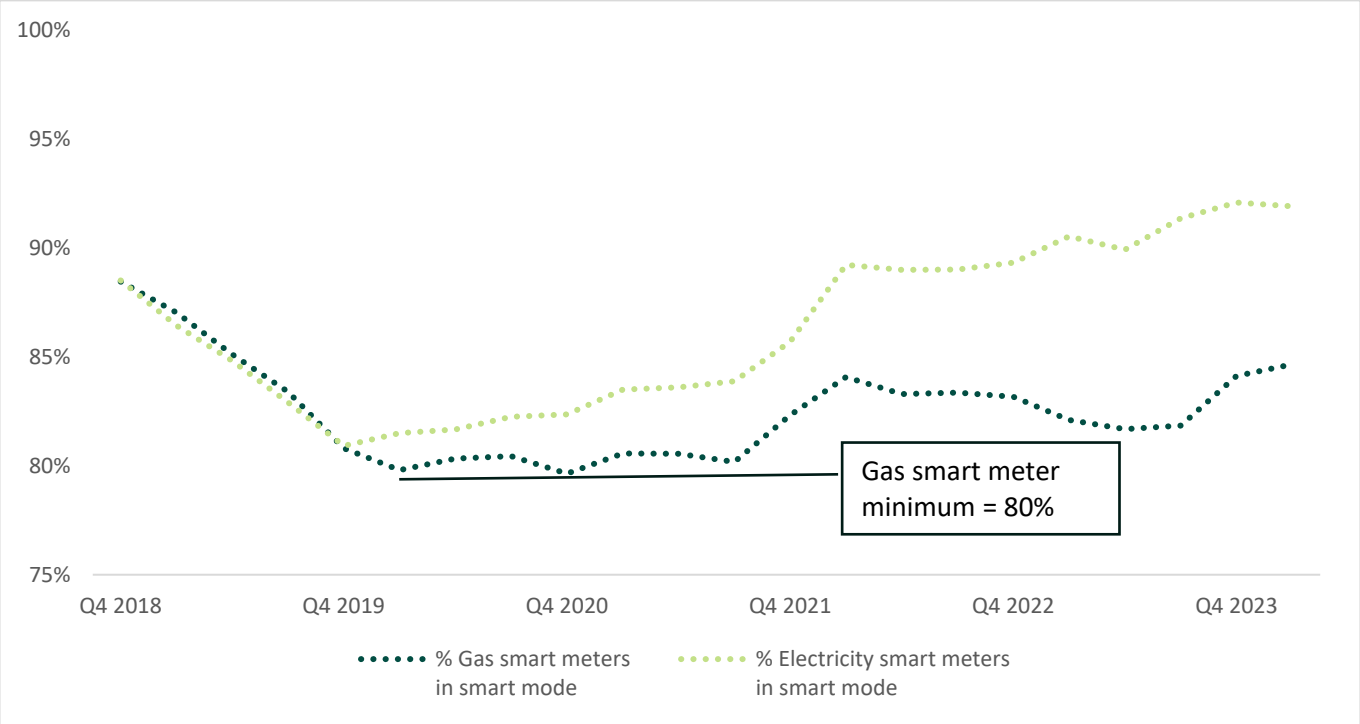
Having engaged suppliers on the question of communication reliability it appears that 95% transmission rates are at the top end of performance that might be achieved by a completely newly fitted set of meters, without accounting for the impact of many real world factors, such as upgrading old meters in sub optimal locations, fitting FMOs and reactive maintenance jobs in areas outside of AMI target patches, difficult geography or urban environments blocking communications, or accounting for necessary timelines to commission and embed meters and comms networks.

In our own case we have been able to achieve data completeness and transmission levels of just under 77% across two trial areas. However, this does not mean that the average meter is communicating 77% of the time,

but rather than at any given time 77% of meters are able to transmit data and 23% are not. These trials are in areas with relatively high meter density and favourable geographies. We have spent many months upgrading coms networks and problem-solving connectivity issues to achieve this current performance. This experience is in line with observations from other sectors.

For example, in the energy sector battery powered gas meters are currently seeing a little over 84% of smart meters 'operating in smart mode' at any given time, with a meter being classed as operating in smart mode where at least one remote read has been received in the last month, a far less stretching standard than that proposed by Ofwat. Electricity meters achieve a higher standard because of their location and not relying on a battery, and so are able to attempt communications at a higher energy cost. Nevertheless, even in this case they have regularly performed substantially below a 95% threshold.

***Figure 1: Percentage of smart energy meters operating in smart mode***




*Source: Department for Energy Security and Net Zero "Smart Meter Statistics in Great Britain: Quarterly Report"*

Another important observation from the energy sector's experience is the drop off in meter connectivity in the initial stages of a smart programme rollout, followed by a gradual recovery as meters gain density, problem solving initiatives are put in place and communication networks are commissioned. Currently the PCD design proposed by Ofwat requires the full 95% compliance test to be met and maintained as soon as each meter reports for one full month.

In practice UUW expect there to be a lag between the time some meters are fitted and the point when communication networks become fully available. AMI capable meters fitted through the Free Meter Option, or as reactive replacements (in the event of an older meter failure) will not always be fitted in locations where communication networks are initially available. We anticipate that communication solutions will be rolled out to the whole of the region over the course of our 12-year AMI installation programme, but some patches may not be reached in AMP8. We anticipate that around 15% of all household AMI meters fitted in AMP8 will either be at customers request as part of the Free Meter Option, or a reactive replacement of an older meter at the point of failure. Nevertheless, it is cost beneficial to fit AMI capability on all meters from the start of AMP8 rather than retrofitting the technology once comms networks become available. However, this economically optimal approach would be impeded under the current PCD design.

Currently UUW's metering programme for AMP8 is prioritised on the basis of anticipated demand reduction and affordability benefits; seeing meters fitted in areas with lower network connectivity such as Carlisle and Cumbria,

where communication infrastructure is not as extensive or reliable as in other parts of the North West, but where water demand reduction benefits are most needed. We also plan to replace and upgrade existing meters that have been fitted in older boundary boxes or internal locations where very high connectivity rates can be more challenging to achieve. These plans are put at risk if companies are compelled by an overly prescriptive PCD to focus on network connectivity above all else.

**Requiring very high communication frequencies drives up costs and limits innovation**
Very stretching data communication requirements will limit the communication technology options open to companies, and require increased strain being placed on meter batteries, reducing expected meter life.

Currently there are a large number of different communication standards being trialled across the water sector, with technologies such as NBIoT, LPWAN, LoRaWAN, etc. being developed to identify which approach can deliver the best possible outcomes. Emerging results indicate that factors such as terrain, urban environments, availability of pre-existing and newly built third party communication networks and meter fit locations will all influence the optimal communication choice for each meter, with companies potentially rolling out multiple communication technologies across diverse regions. However, if a 'stretching' delivery test for communications is imposed, set at the highest levels currently being achieved across all communication technology options, then by definition the majority of these technology options would be unlikely to be able to meet that standard. This would mean that from 1 April 2025, when the new delivery tests come into force, companies will struggle to justify continued R&D work. All industry AMI installations will be constrained to only those technologies that currently meet the new required standard.

In addition, the requirement for high communication frequencies will require companies to attempt more frequent communications with installed meters, 'pinging' the meter with a higher frequency to ensure sufficient daily communications are achieved. This increased demand for communication will directly impact achievable battery life for the meters. Currently UUW whole life cost projections are built on a predicted 15-year meter asset life. However, this assumes a once-a-day communication event. To achieve very high confidence levels in communication frequency we, like all companies, will require more frequent communication events, impacting expected battery life. As battery failure is expected to be the principal failure mechanism for AMI enabled meters any changes which impact battery life will adversely impact expected asset lives. This will drive up costs associated with meter renewals, increasing the whole life cost of these meter programmes for all companies and ultimately drive-up costs for customers.

As set out above, the delivery requirements for this PCD, as currently specified, risks stifling innovation, pushing up whole life costs, and compelling companies to artificially constrain meter fit locations, all at the expense of the intended outcomes of promoting water efficiency and reducing leakage. Given the stretching water efficiency and leakage reduction performance commitments that companies face we believe it would be reasonable to remove the meter connectivity and data completeness tests from the PCD, whilst retaining reporting requirements to support industry development of new AMI shared standards. Failing this we believe that an alternative PCD design is needed.

## Alternative PCD design

To address these challenges, we propose an alternative PCD design. This alternative approach aims to avoid the negative impacts highlighted above, whilst acknowledging Ofwat's aim of having an incentive for companies to ensure AMI enabled meters achieve a good level of communication integrity.

The alternative PCD design retains a meter-by-meter requirement to ensure newly fitted and replaced meters are AMI capable. It replaces the data capture and transmission tests with a new programme level test, requiring a percentage of all meters to communicate, and for the total meter base to provide an adequate level of data.

***Table 4: Alternative PCD outputs and delivery test definitions***

| PCD Output | Delivery test | Comment |
|---|---|---|
| New installation meter only | AMI smart capable meter installed | Delivery test passed on the fitting of a smart enabled meter regardless of communication levels. Test applied annually. |
| Meter Replacements | AMI smart capable meter installed | Delivery test passed on the fitting of a smart enabled meter regardless of communication levels. Test applied annually. |
| Connectivity level and data completeness | 70% of smart enabled meters transmit sufficient data to the required standard | Delivery test passed if 70% of all meters connect and supply read data successfully over the year, and sufficient data is provided across the meter estate. Test applied in 2029/30 only. |

Under this proposal companies retain a strong focus on fitting meters and ensuring that a minimum level of connectivity and data provision is in place at a programme level. Whilst the meter installation and replacement outputs would retain an annual profile, we propose that the connectivity and data completeness output is only tested in the final year of the AMP, giving companies flexibility around the roll-out and commissioning of communication capabilities, whilst also providing clarity around the ultimate level of connectivity that is required as metering programmes mature.

As set out above, defining an appropriate measure for meter connectivity and data sufficiency is complex, requiring a clear understanding of operational context and the factors that impact smart meter performance, as well as consideration of how introducing such tests will impact on companies' ability to deliver against the core outcomes of water demand and leakage reduction. We strongly encourage Ofwat to engage with water companies in advance of Final Determinations to develop measure definitions that will act to protect customers whilst avoiding many of the negative consequences identified in this document.

In the case of UUW there are three key factors that need to be considered when assessing a target for meter connectivity rates:

- Around 15% of meters could initially be fitted in areas outside of proactive AMI roll out areas, with this percentage falling as AMI is rolled out more widely and comms networks are developed.
- As seen in other sectors, around 80% to 85% of AMI meters fitted as part of a proactive roll out can be expected to achieve regular connectivity over the longer term.
- It can take a number of months to develop a robust communication network in an area.

Taken together we believe that a 'back stop' connectivity target of no more than 70% should be applied, and this target should only apply at the end of AMP8.

We also propose modified payment rates to align with the new outputs and test. Payment rates for this PCD can be aligned to cost allowances in a similar manner to the approach set out in the existing PCDs, using information generated from Ofwat cost allowance models.

***Table 5: Alternative payment rates***

| PCD Output | Payment rate | Comment |
|---|---|---|
| New installation meter only | £X / meter = £ allowed per new installation less £ allowed per 'meter upgrade' | Set at a rate aligned to the cost allowance for a new AMI meter, less the amount protected through the 'Connectivity level and data completeness' output. |

| PCD Output | Payment rate | Comment |
|---|---|---|
| Meter Replacements | The same £/meter as included in current PCDs | Set at a rate which is aligned to the cost allowance for a meter replacement activity. |
| Connectivity level and data completeness | £X / % below target = £ allowed per 'meter upgrade' * (Total new installations + Total meter upgrades or replacements) / 100 | Set at a rate aligned to the cost allowance for 'meter upgrade', calibrated to a percentage measure of meter base connectivity. |

Using as an example the values included in the current United Utilities PCD the payment rates would be:

***Table 6: Example payment rate calculations***

| PCD Output | Payment rate | United Utilities values |
|---|---|---|
| New installation meter only | £X / meter = £ allowed per new installation less £ allowed per 'meter upgrade' | £347.55 - £75.31 = £272.23/meter |
| Meter Replacements | The same £/meter as included in current PCDs | £125.02 / meter |
| Connectivity level and data completeness | £X / % point below target = £ allowed per 'meter upgrade' * (Total new installations + Total meter upgrades or replacements) / 100 | £75.31 * (501,140 + 419,751)/100 = £693,569 / % point below target |

*Source: UUW analysis*

Please note that our resubmitted data tables are based on acceptance of a redesigned PCD in line with this alternative design. In the event that a PCD design similar to the one included within Ofwat's Draft Determination is retained our cost for delivery would need to be adjusted to reflect the additional costs of meeting much more stretching data standards and reduced ability to pursue innovative communication technologies.

## Interoperability requirement

Ofwat have stipulated within the PCD delivery definition that the industry should agree to common AMI data standards by December 2025. Whilst we support the need for shared data standards and agree that there is substantial value in establishing such standards, we believe that all PCD delivery requirements should be substantially within a company's control, and a requirement that is dependent on other companies' agreement should not form part of a company specific PCD. The inclusion of a requirement that can only be fulfilled if all water companies agree to a common standard places an uncontrollable delivery risk onto UUW, and risks exploitation by a bad actor.

Under this proposal all water companies' PCD delivery tests can only be met if all companies agree to the new standards. This means that UUW will fail 100% of its PCD delivery test in the event that another water company were to withhold or delay consent beyond December 2025. This could be particularly problematic in the event that another water company were to have an alternative PCD in place that lacked this requirement (for example if their PCD were modified after the setting of Final Determinations as a result of an appeal to CMA, or via a change control process).

This requirement also risks exploitation by a bad actor. For example, a single company could demand a standard that is favourable to them, withholding agreement unless their specific objectives are met, even if that is not in the interest of the wider industry or customers.

Again, we emphasise that we are supportive of the need and value in common data standards and restate our commitment to support industry efforts to establish a common framework. We also note that a portion of the upcoming £100m Water Efficiency fund is currently envisaged to be used to support the roll-out of smart

metering and could potentially play a role in this space. Our concern is limited to the inclusion of a specific cross company "agreement" requirement within a company specific PCD.

### Application of PCDs to base allowances

We understand the decision to extend the scope of this PCD to cover the uplift allowed within base cost allowances. This additional sector wide allowance to address costs for renewing a more than usual number of pre-existing meters has an impact similar to enhancement allowances and there are reasonable arguments that it should be subject to similar customer protections. However, we are concerned that Ofwat has chosen to apply the PCD to cover the full implicit botex allowances for meter replacements, rather than limiting the scope of the PCD to the additional allowance only.

In general, we believe that companies should retain flexibility to determine how best to invest botex allowances, retaining the ability and accountability to adapt and flex investment as and when region specific demands emerge.

To address this concern, we propose that the PCD has an end of period non-delivery payments cap, set at the total number of additional meters projected in the sector wide meter replacement adjustment. Meaning that the ultimate non-delivery payment would not exceed the value of the uplift allowance.

In a practical sense this change would have minimal impact on the functioning of the PCD as companies face numerous additional incentives to deliver the proposed programme of AMI meter installations and replacements, including performance commitments for PCC, business demand and leakage reduction, as well as substantial regulatory scrutiny of WRMP delivery. However, this change would reinforce an important principal around the accountability and flexibilities that underpin botex allowances.

## 4.2 Enhancement allowance

Ofwat has applied a £33m (13%) efficiency challenge to our £246m enhancement claim for the fitting of AMI enabled meters. However, we believe that the requested cost allowance of £246m can safely be allowed in full. New information on market tested prices from our latest tender process demonstrates that our original cost proposal, submitted in our business plan, was set at an efficient level.

We have identified limitations in Ofwat cost models that are likely to have led to an inaccurate assessment of efficient costs and believe once Ofwat adjust their cost models for these factors, using data already supplied by companies, they will observe that UUW's cost proposals are efficient.

### New information on market tested prices

Following submission of the UUW Business Plan proposals in October 2023 we have conducted a competitive tender process for the delivery of our planned AMI installation programme in AMP8.

This tender process covered the full cost of meter installation, renewal, and data communication for all customer metering activity in AMP8. Within this is included the purchase and installation of both household and non-household meters. Metering activity related to FMO fits, reactive meter maintenance, proactive meter roll out plans and proactive meter renewals are all included within the tender. Additional smart meter infrastructure costs for activities such as development of new data management systems will be delivered outside of the scope of this tender.

From the outset we have sought to ensure as competitive and comprehensive a tender process as possible. [✂

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The process is now near its final stages with best and final offers provided by the last remaining bidders. The outcome of this process provides direct and robust evidence of the smart metering costs UUW will experience in AMP8. The competitive and open nature of the tender process also ensures market pressures have been effectively utilised to ensure the best possible price has been revealed, delivering an as efficient as possible price point for the programme of work.

The outcome of the tender process shows that our original business plan cost projection represents a stretching efficiency challenge when compared to prospective suppliers' current bids.

***Table 7: Comparisons between UUW Business Plan cost projections, Ofwat DD allowances, and market tested rates (2022/23 prices)***

| | UUW Business Plan submission | Ofwat DD allowances | Variance |
|---|---|---|---|
| Smart metering enhancement – Pre efficiency | £246m | £213m | -£33m |
| General efficiency | -£6m | -£7m | -£1m |
| Smart metering enhancement – Post efficiency | £240m | £206m | -£34m |
| | | | |
| Market tested contract rates[1] | £[ ] | | |
| Smart metering infrastructure costs[2] | £[ ] | | |
| **Total** | **£[ ]** | | |
| | | | |
| Implied efficiency vs market tested rates | [✂ ] | [✂ ] | [✂ ] |
| Implied efficiency percentage | [ ] | [ ] | [ ] |

*Source: UUW analysis*

These best and final offers demonstrate that our original enhancement claim of £240m post efficiency (£246 pre-efficiency) represents a stretching cost position, requiring a further [ ]of efficiencies to be identified and delivered in AMP8. We believe that through working collaboratively with our suppliers we can find opportunities for further total programme cost reductions against these tender prices, and ultimately bring final costs in line with our original business plan submission.

However, we cannot identify a credible route to achieving the implied [ ]cost efficiency versus market tested rates required by Ofwat's DD cost allowance. We believe that the DD approach to cost modelling has a number of material limitations that once corrected will demonstrate that UUW's enhancement cost claim can safely be allowed in full.

## Why Ofwat cost models have generated an inaccurate cost allowance

Given our new and compelling evidence on actual smart meter market rates it is important to understand why Ofwat cost models have inaccurately forecast UUW cost requirements, and how these issues can be resolved in advance of Final Determinations.

In reviewing Ofwat's cost allowance models we believe there are several issues that have led to an inaccurate cost allowance. Whist there are a number of potential issues, we believe that two factors are most material in impacting projected cost allowances for UUW. Specifically, they are the limited consideration of important operational context (such as meter fit locations), and an over weighting of cost data from a single group of associated companies.

**Ofwat's cost models use a single cost driver, missing important additional factors.**
This approach is unable to recognise the substantial differences in the unit cost of installing different types of meters, or that companies have significant differences in the mix of meter installations included in their programme.

[1] Market tested contractor rates reflect the lowest of all submitted bids and includes costs associated with meter purchase, installation, read communication, and internal costs and overheads.

[2] Additional smart meter infrastructure costs for activities such as development of new data management systems will be delivered outside of the scope of the tender, and are quoted here in line with our business plan submission

In the case of UUW the unit costs of different meter install types can vary by over 300%. Factors that influence these costs include meter installation location, household vs non-household, and whether the meter is part of a proactive fitting programme initiated by the company or reactive fitting as a result of a customer request or meter failure.

***Table 8: UUW examples of new meter install unit costs – 2022/23 price base***

| Fit type and location | £/meter |
|---|---|
| Household – Company initiated – External existing box | [✂ ] |
| Household - FMO - External - External existing box | [✂ ] |
| Household - FMO - Internal | [✂] |
| Household - Company initiated - New box | [✂ ] |
| Household - FMO - External – New box | [✂ ] |

*Source: UUW analysis*

Crucially, companies have a limited ability to influence the profile of meter fitting activity type included in their meter fitting programme. For example, the take up of higher cost Free Meter Options by customers is, to a material degree, driven by customer choice rather than company control. Similarly, the choice of fitting inside or outside a property is strongly influenced by the age and mix of property types in a given location.

The inability of Ofwat's cost model designs to account for these important cost drivers is likely to be a major part of the very wide range of efficiency challenges applied by Ofwat, with enhancement claims adjusted by up to c.+/-60%.

We have not sought to generate alternative cost models in this instance, as we have limited access to information on the make-up of other companies metering programmes, or commercially sensitive details of the maturity of their commercial arrangements. However, a review of companies' business plan submissions indicates that there are material differences across companies in the relative proportion of different meter fitting types. For example, we have identified that Severn Trent plan to fit 45% of new household meters in existing boundary boxes[3], whilst in the North West we expect no more than 7% of meters can be fitted in this way[4] (35,000 of 500,000 new household meters).

We believe that through the query process Ofwat has acquired, or could acquire, detailed information on each companies' unit cost and projected activity levels[5] across a range of different metering types. This information could allow more advanced and accurate cost model development.

**Ofwat's models don't appropriately correct for correlation between Severn Trent and Hafren Dyfrdwy data points:**
Severn Trent and Hafren Dyfrdwy are associated companies. Both companies have the same parent company and share many of the same support functions. It is likely both companies share a similar approach to commercial strategy. This is highlighted by the similarities between the two companies' unit cost for fitting new smart meters.

Ofwat's current cost modelling approach treats Severn Trent and Hafren Dyfrdwy as entirely independent. This might be appropriate in some circumstances, for example:

- **Where the two companies have entirely separate management and procurement structures.** In this circumstance, it would be appropriate to reflect both companies separately within the benchmarking assessment. This is because this allows each company to add into the assessment additional information about the relationship between cost and cost driver, as separate companies are likely to implement individual procurement strategies. As such, the sample size increases, and the resulting analysis is more robust.

[3]Severn Trent PR24 Business Plan submission "Meeting-our-future-water-needs" Page 56

[4]UUW response to Ofwat query Ref – OFW-OBQ-UUW-045

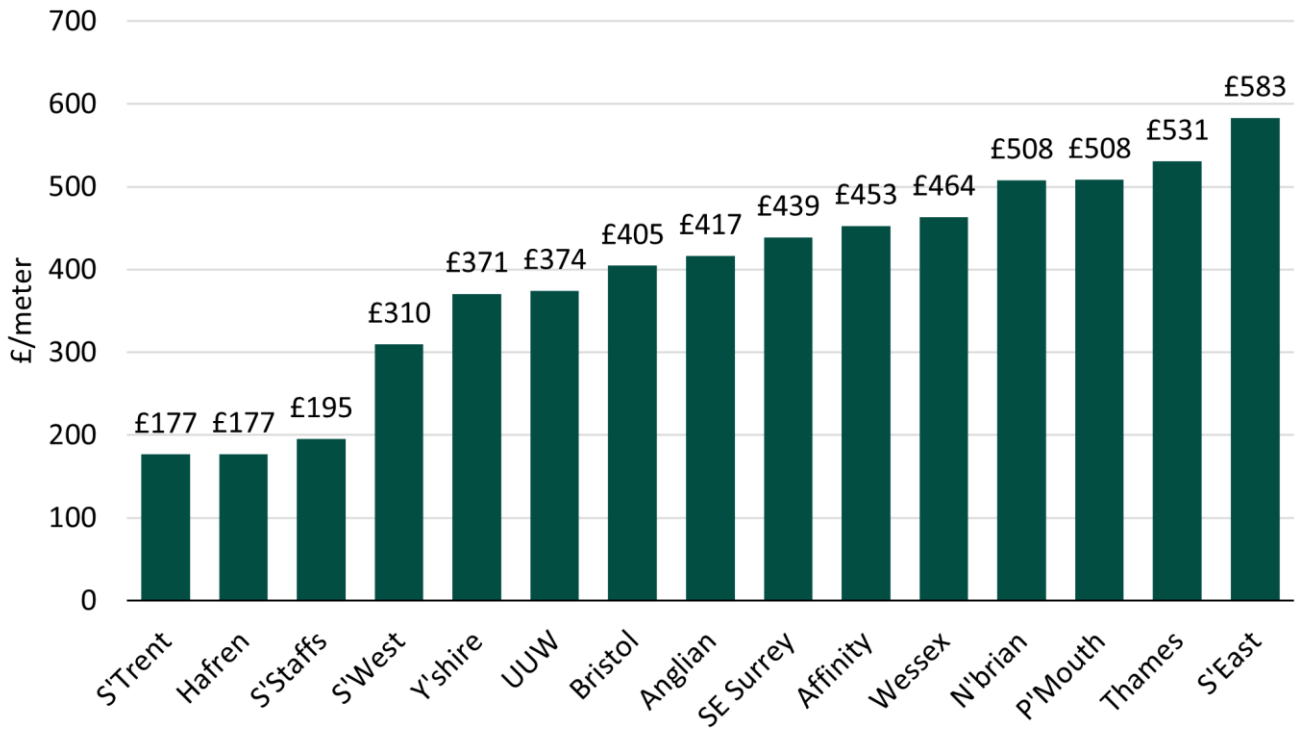
[5]Ofwat query Ref – OFW-OBQ-UUW-045

- **Where the two companies operate in materially different environments subject to unique regional factors and the service of interest is affected by these circumstances.** In the case where two companies share common ownership, it may still be justifiable to include each separate company if it is thought this adds additional information into the benchmarking analysis. For example, Bristol Water, South West Water and Bournemouth Water are owned by the same parent company but are included as separate observations within botex benchmarking. This is justified because each of these companies serves a unique region and as such the inclusion of each company separately adds additional information, making the resulting benchmark more robust. The same is true for the separate inclusion of Severn Trent and Hafren Dyfrdwy in water botex benchmarking.

However, in the case of smart metering activity, we do not consider these conditions to hold. There is clear evidence that Severn Trent and Hafren Dyfrdwy have the same procurement strategy, each company has projected the same unit cost to fit a new AMI meter. This suggests that the costs submitted within each company's business plan have been derived from the same commercial tendering process. As such, the inclusion of the two companies separately effectively doubles the weight of a single procurement strategy.

Figure 2 below shows the extent to which these two companies may be influencing the benchmark position. There is clearly a risk that treating these companies as sperate entities could be skewing modelled cost projections.

***Figure 2: New meter household installations – PR24 data tables £/Hh[6]***




*Source: Data taken from PR24 data tables, January resubmission*

Given this, caution should be exercised when considering cost model construction. There is a high likelihood that the two companies should in practise be treated as a single entity for the purposes of cost assessment. Otherwise, there is a risk of giving outsized influence to, what is for all intents and purposes, a single, highly influential company within this particular cost assessment.

Taken together, these two material issues have resulted in a cost model design that is unlikely to accurately reflect the true efficient costs associated with delivering 920,000 AMI enabled meters in the UUW region.

[6] Data taken from PR24 data tables, January resubmissions.

# 5. Approach for final determination

The metering PCD risks penalising efficient delivery and should be modified. Efficiently delivered smart metering programmes across water and energy recognise that around 20% of smart meters will typically operate at a lower, but still beneficial communication standard. We agree that the PCD should incentivise companies to achieve a good level of communication operability but propose that it is modified to avoid stifling innovation, pushing up whole life costs, and compelling companies to artificially constrain meter fit locations.

The UUW enhancement claim should be allowed in full. The indicative outcome of our competitive tender process demonstrates that our submitted cost position is efficient when compared to market rates. Limitations in Ofwat cost model design, particularly the limited consideration of important operational context (such as meter fit locations), and an over reliance on a single group of associated companies has resulted in Ofwat unreasonably disallowing elements of our cost allowance submission.