

# **WSX41 - RORE commentary and analysis**

Business plan  
2025-2030



**Wessex Water**  
YTL GROUP

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# WSX41 - RORE commentary and analysis

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*This supporting document is part of Wessex Water's business plan for 2025-2030.*

*Please see WSX00 – Navigation document for where this document sits within our business plan submission.*

*More information can be found at [wessexwater.co.uk](http://wessexwater.co.uk).*

**For annexes, see Supporting Document WSX43 – Annexes – RORE commentary and analysis**

# Executive summary

In the final methodology, Ofwat present a very symmetric view of the expected RoRE, ranging from -4.85% to +4.80% (see Figure 1). We do not agree with this characterisation of the relative risks. It is based on historical information, often excluding most recent years.

When looking at more recent operational performance, there is a material downward skew in RoRE. This needs remedying as, currently, it appears the sector is not a fair bet. Our plan remedies this pre-existing skew by increasing our proposed base expenditure and setting stretching but achievable performance commitment targets.

However, as we set out in this document, when considering forward looking risks we find that in almost all cases the relative risks have increased in size, and in downward skew from those present at PR19. This results in a fundamentally downwardly skewed RoRE range.

The size and complexity of our totex programme (wholesale plus retail), not only increases the potential impact far beyond the expected 2%, but with the addition of the PCD framework and expected national deliverability challenges results in a range of -4.5% to +2.3%.

The limited selection of common performance commitments and increasing ODI rates results in many measures that have a much more extreme downside than potential upside, on top of the penalty only measures this results in a range of -1.7% to +0.8%. This is based on the provided ODI rates. We note that if they were rebased to the forward-looking view of regulatory equity this would drastically increase.

Although indexation of new debt provides some protection, the further erosion of financial headroom results in a much more likely underperformance. Coupled with further inflationary linked risks on embedded debt results in another negative skew of -1.1% to 0.8%.

Finally, the addition of PCDs, a downside only mechanism, creates a further downward skew of -0.4%.

When our RoRE range in Figure 2 is compared to the prescribed scenarios in the final methodology, the actual RoRE presents a stark negative skew.

Figure 1: Ofwat's Final Methodology - Figure 2.1: Indicative PR24 RoRE risk ranges for the notional company

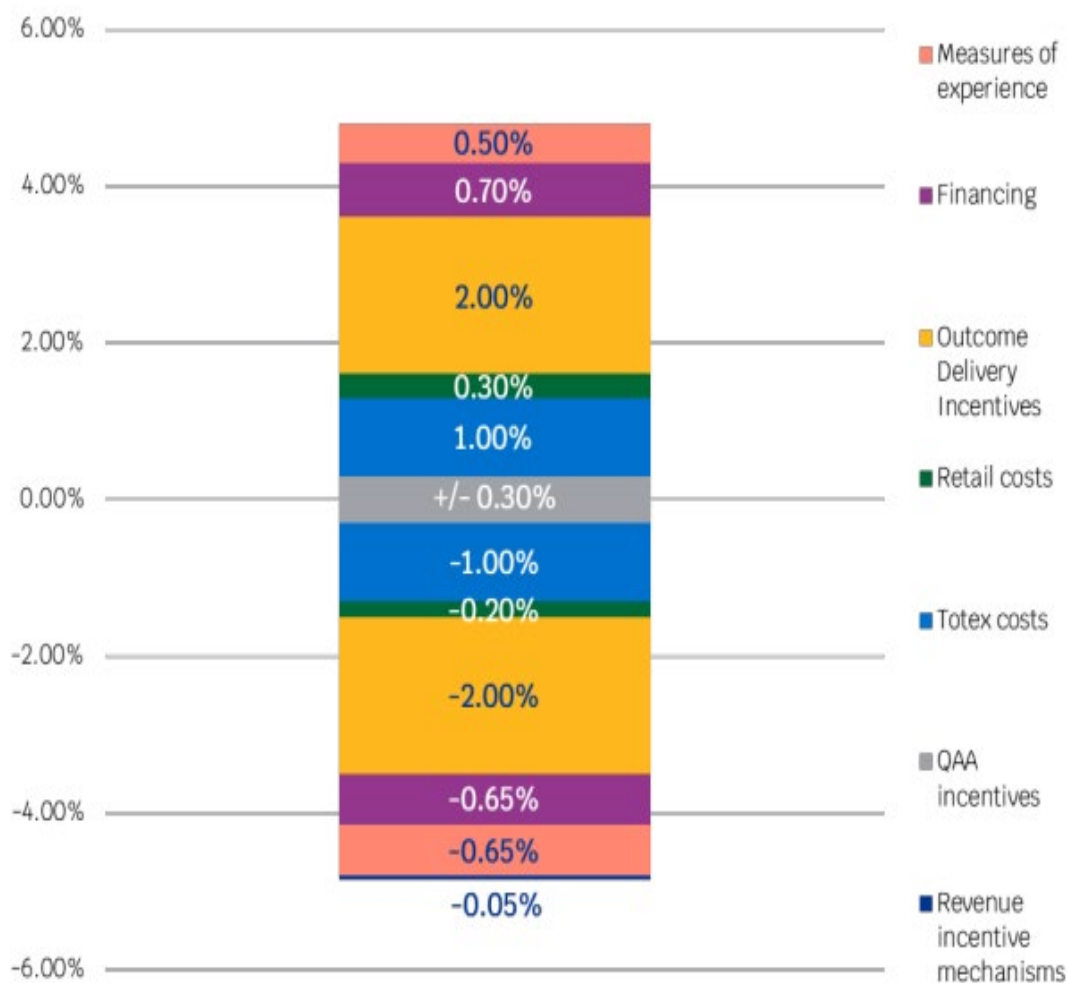
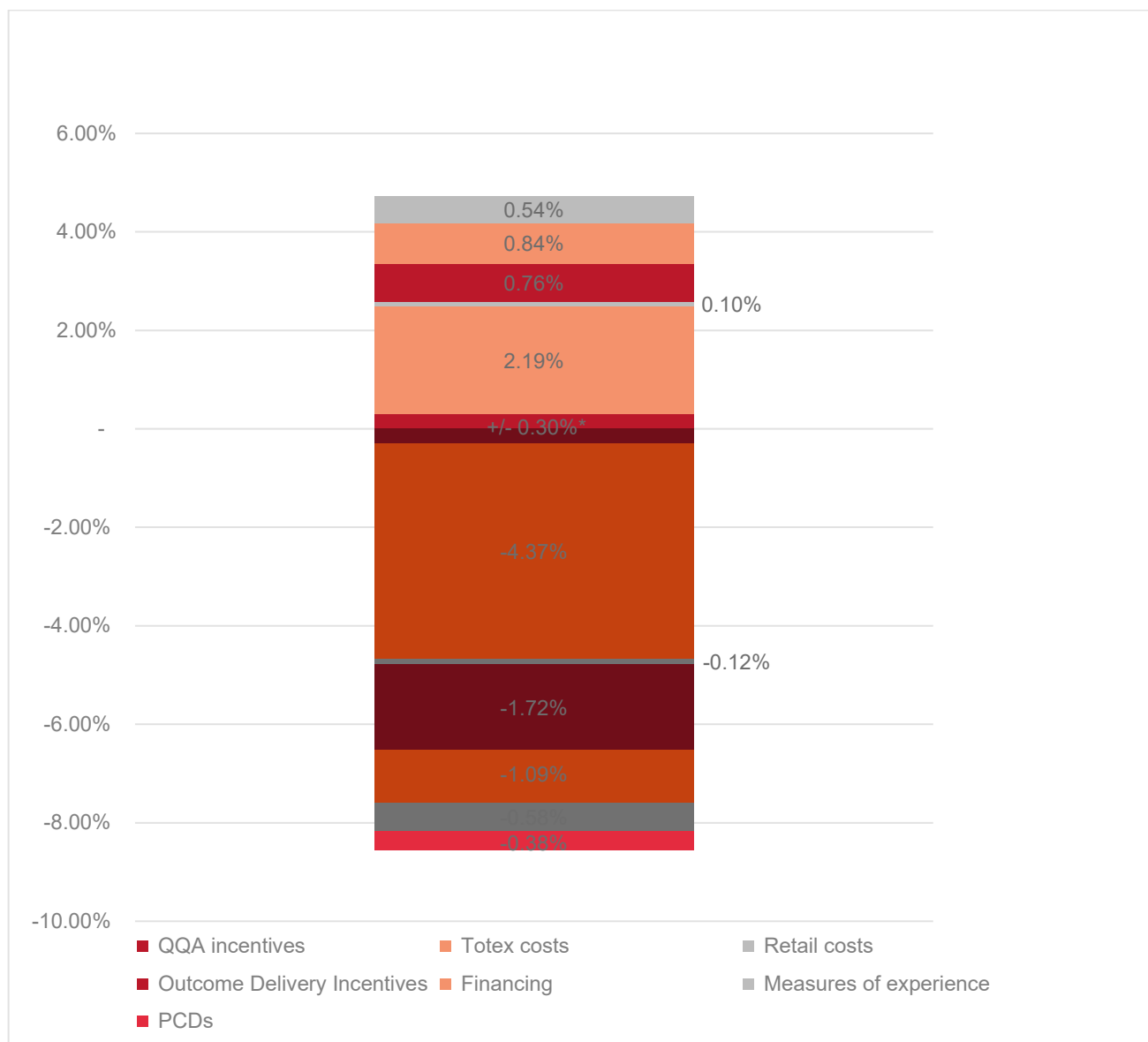


Figure 2: Wessex Water view - PR24 RoRE risk ranges



This necessitates some remedies within the price setting process. However, where investment is driven by statutory drivers, and we are hitting the limits of performance (zero CRI and serious pollution targets, for example) how to do this isn't clear. The solution we are proposing is to recognise this skew in the formulation of the cost of capital. The systematic risks borne by investors are increasing relative to history, therefore the beta needs to increase. Further, an expected negative central position through the ODI framework, already mitigated by the increases in base expenditure we are proposing. We set these arguments out in WSX31 – Risk and return.

# 1. The final methodology range

In Table 2.1 in appendix 10 of its final methodology Table 1, Ofwat sets out the expected RoRE range extracted below:

Table 1: Ofwat's Final Methodology - Appendix 10 - Table 2.1: Indicative PR24 RoRE risk range for the notional company

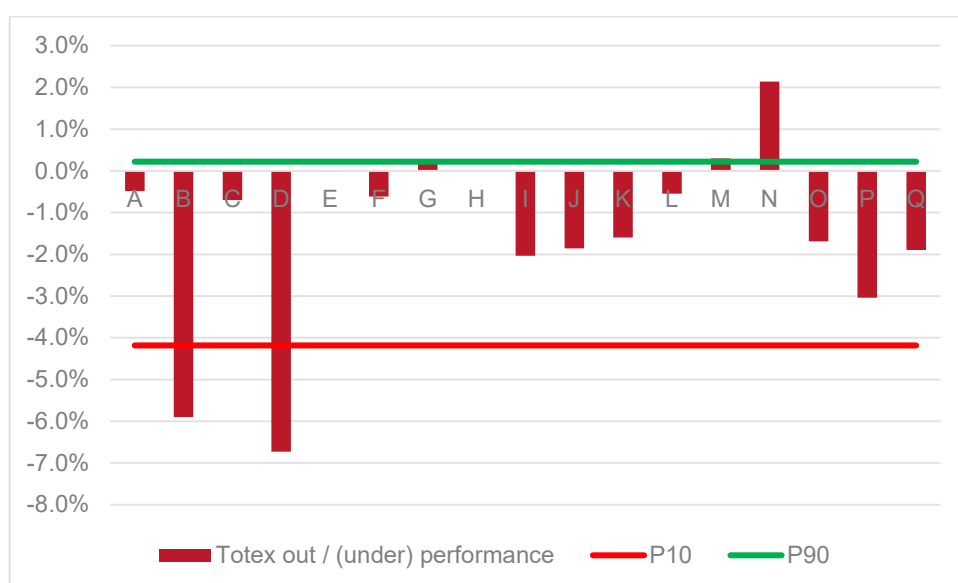
Component of risk	Reasonable downside (P10)	Reasonable upside (P90)
Quality and ambition assessment	-0.30%	0.30%
Totex costs	-1.00%	1.00%
Retail costs	-0.20%	0.30%
Outcome Delivery Incentives	-2.00%	2.00%
Financing	-0.65%	0.70%
Measures of experience	-0.65%	0.50%
Revenue incentive mechanisms	-0.05%	0.00%
<b>Total</b>	<b>-4.85%</b>	<b>4.80%</b>

This analysis is not based on contemporary data and artificially presents a much more balanced position.

## 1.1. Actual Wholesale Totex Performance 2020-23

Table 1F, published annually by all companies as part of their annual performance report, sets out the actual impact of totex performance over 2020-23 as a portion of regulatory equity – see Figure 3 below.

Figure 3: Industry RoRE impact 2020-23 - Totex



This suggests a P10 position of -4.18%, and a P90 position of 0.22%.

This shows a range that is much more negatively skewed than when looking further back as presented in the final methodology. This represents the increasing level of stretch expected currently, setting a catch-up efficiency challenge tighter than at previous controls, a frontier shift significantly more stretching than national productivity data suggested and expecting significant improvements in service to be delivered through base.

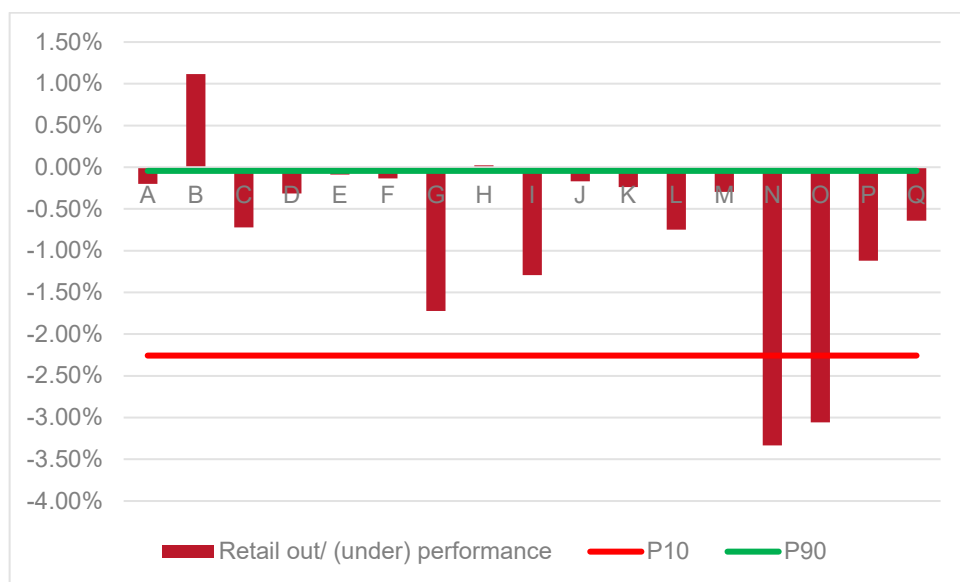
It also recognises the disparity in inflationary costs borne by companies, and those “protected” against through CPIH indexation of costs and revenues. Power, chemical and construction inflation has far surpassed CPIH.

We recognise that the current conditions are extreme. We are in an inflationary period that has not been seen for 40 years, and certainly do not consider this as the sole basis on which to base our forward-looking assessment. Although many of the arguments set out will hold, and potentially be exacerbated going forwards.

## 1.2. Actual Retail Performance 2020-23

Similar to the above, Figure 4 below sets out the retail performance to date this period.

Figure 4: Industry RoRE impact 2020-23 - Retail



This suggests a P10 of -2.26% and a P90 of -0.04%.

Similar arguments to those above hold here, although on retail it further highlights some key points.

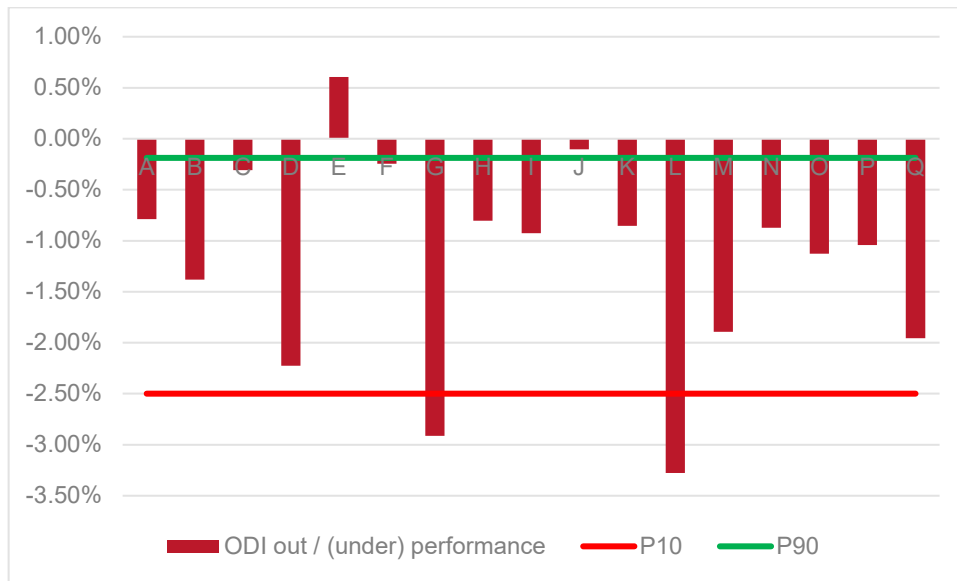
1. The lack of automatic indexation is starker and will continue to grow over the coming two years.
2. The use of unrealistic cost forecasts in benchmarking has set, in our view, an unachievable target.
3. The lack of totex protections, outside the volumetric adjustments, exacerbates the impact of shocks outside of management control.

As above, we recognise that this analysis is impacted significantly by the impact of Covid19 and the cost-of-living crisis, particularly regarding bad debt. This may alleviate in the future, although upward pressure on bills will continue to increase these costs.

## 1.3. Actual ODI Performance 2020-23

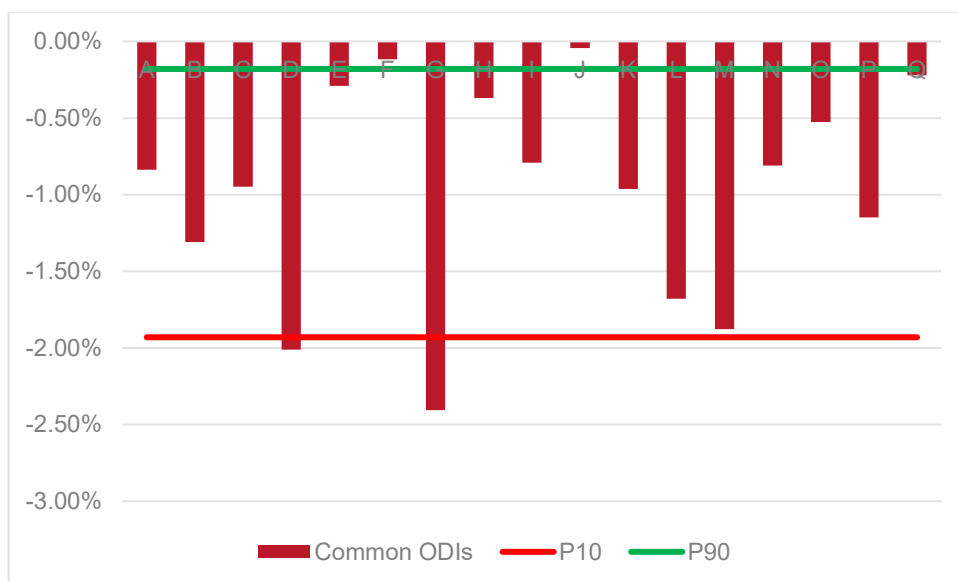
Similar to the above, Figure 5 sets out the ODI (excluding C-MeX and D-MeX) performance to date this period.

Figure 5: Industry RoRE impact 2020-23 - ODIs



As mentioned above, the stretching targets, expected to be delivered through base expenditure drive significant downwards skews on RoRE. This is exacerbated when only considering the common measures, as shown below in Figure 6.

Figure 6: Industry RoRE impact 2022/23 - Common ODIs



## 2. Quantifying our RoRE range

As demonstrated above, based on actual performance of the sector over the past three years, the expected RoRE range is lower than that set out in the final methodology. This has coincided with the implementation of the cost allowances and targets from PR19. As indicated, the proposal is to continue along this line, and so the performance post 2020 is the most comparable.



Our plan already corrects for a lot of the downward pressures seen above. We are:

- Proposing an increase in base cost allowances to reflect efficient increases over time the maintenance of the stretching service standards expected by 2025,
- Proposing accurate representation of where costs are expected to differ by more than inflation through the CAC and RPE process,
- Proposing indexation of retail costs,
- Proposing uncertainty mechanisms on bioresources where cost shocks will not be covered by the volumetric adjustments, and
- Proposing clear enhancement expenditure to continue to improve service.

However, we are also seeing additional challenges, that do create a downward skew:

- The size and complexity of the capital programme, in many areas investing to standards not yet achieved, on an unprecedented scale creates a much larger potential downside, and
- The introduction of PCDs, and their design to return more than we are funded to customers creates a further downward skew.

We have used the RCV figures from our submitted financial model and assumed a 60% notional gearing when stating the below RoRE ranges.

## 2.1. Our Totex RoRE range

Our proposed totex programme of £5bn is more than double what we have ever historically delivered, and we expect not to be unique in the scale of this increase. This will produce an unprecedented squeeze on local and national supply chains.

Further, the complexity of our capital programme is of a previously unexpected scale. We are implementing technically achievable limits of nutrient removal across multiple wastewater treatment sites, and trialling innovative nature-based solutions, that have not been delivered at scale before.

There remains, significant uncertainty around the programme, specifically around the scale and complexity of our nutrient removal, and storm overflow programmes.

This is creating significant additional cost risk.

To quantify this, we have decomposed our overall totex submission into programmes of work, some which are routine and represent BAU, some represent significant technical hurdles, and some represent delivery at a scale not previously considered.

The Green Book states that ideally adjustments should be based on an organisation's own evidence for historical levels of optimism bias, but where this is not available then generic levels are provided in Annex 5 of the Green Book, with further information provided in Supplementary Green Book Guidance on Optimism Bias which was prepared based upon a Review of Large Public Procurement in the UK by Mott MacDonald in 2002.

Guidance on Developing the Project Business Case (HM Treasury, 2018) sets out the stages in developing a Strategic Outline Case which includes calculating the Net Present Social Value of the "shortlist" of options on the basis of costs and benefits, including 'optimism bias' and the 'cost of risk'. It is noted that the adjustments for optimism bias are designed to complement (not replace) good practice in estimating specific project risk. Therefore, the process allows optimism bias to be scaled back as more reliable costs and risk estimates are developed.

Therefore, where we are delivering "new" activities, either through complexity or scale we have formed a bespoke risk range for these programmes.

The Green Book bounds of optimism bias are:

- Standard Civil Engineering projects 3 to 44%
- Non-Standard Civil Engineering projects 6 to 66%

These are the potential bounds in the uplifts to estimated costs to reflect the optimism bias implicit in estimating. We have compared these bounds with the risk allocation within the prices we are proposing to estimate a potential upper and lower bound for each programme of work.

An alternate view is the AACE cost estimate classification system Table 2:

Table 2: AACE Cost estimate classification system

ESTIMATE CLASS	Primary Characteristic	Secondary Characteristic		
	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges
Class 5	0% to 2%	Concept screening	Capacity factored, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Equipment factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

Due to the uncertainty, and new nature of a lot of our proposed investment, many of our estimates are built up through asset or strategic cost models, which would be considered class 4 or 5 in the above table.

We do not expect to see a dampening of the overall range from a portfolio effect, as many of the potential risks will impact all projects in a similar manner. For example:

- increasing costs over inflation will impact all areas;
- supply chain availability will impact all areas;
- technology change will impact an entire programme in the same manner; and
- changing guidelines and legislation will impact an entire programme in the same manner.

We have triangulated these approaches to give a programme specific range for each element of our totex plan. We have then cross checked this against a sample of PR19 estimates that, at the time, represented “new” activities.

Although both approaches above will include some element of inflation risk, recent economic conditions have shown that this allowance is not a hard bound. For example, the above bound for inflation related risks from the Green Book guidance implicitly assumes a 3-4% maximum adjustment.

Recent data, suggests that the BCIS civil engineering index 1191 has increased by c25% between September 2020 and September 2022 compared to only a c12% increase in CPIH over the same time.

Where we have more certainty and activities are BAU, we have taken a view based on expert judgement recognising our experiences delivering these activities, the risks outside of our control and the portfolio effect, mitigating the overall scale.

Additively, we would expect this approach to over-estimate the overall range, and so we have then undertaken a Monte Carlo analysis to reflect a degree of independence between the above risks. However, we would expect some correlation, as the external risks that drive cost shocks will often impact the entire programme simultaneously, such as costs rising faster than inflation, legislative change or national supply chain limitations.

This gives us the overall aggregate position of -4.5% to 2.4%. We have then allocated this by year by price control, and by year to fill in table RR30. We note that as we have modelled the total performance over 2025-30 and allocated this value, we are not at risk of additively over stating the presented range.

## **2.2. Our ODI RoRE range**

In pulling together our plan, we have used expert engineering judgement to inform the potential ranges of performance around our proposed targets. We have set out our views of P10 and P90 positions annually in the supporting spreadsheet. Our narrative around these ranges is within WSX47 – Outcomes – table commentary.

Given the level of investment we are proposing we consider our targets to be the P50. If there are material adjustments to base or enhancement costs, this will not be the case.

Similarly, to the totex case, we would expect the sum of these adjustments to be beyond the true P10 and P90, and so have undertaken a Monte Carlo analysis recognising where performance between measures is independent, and where there will be underlying correlations, driven through external factors such as the weather. These correlations are based on expert judgement.

Using the rates provided by Ofwat, this gives us the overall aggregate position of -1.7% to 0.8%. We note that these rates are based on current levels of regulatory equity, if they are rebased on the likely regulatory equity over 2025-30, this would significantly increase this range.

## **2.3. Our financing RoRE range**

We have submitted our plan assuming a WACC calculated using up to date assumptions on the cost of new debt, and the proportion of new debt.

Given the erosion of financial headroom at PR19, and the expected pressure on financial headroom from the large investment programme, we have taken the analysis put forward in the final methodology, but instead of targeting the average of A and BBB rated debt, we are modelling relative BBB rated debt. We have adjusted both ends of the +0.7% to -0.3% range, downward by the average wedge between the Iboxx indices, 0.38%.

This position is supported by the credit rating targeted by the notional company and the position of the plurality of the industry.

We have also included the inflationary risks put forward in the final methodology in relation to index linked debt. We note that, as we transition away from RPI, this is likely to understate the inflationary risk. A growing wedge between CPIH and RPI, as we have recently observed, would create further potential downside.

This results in a total financing RoRE range of -1.1% to +0.8%.

## **2.4. Our measures of service RoRE range**

We have currently included, C-MeX, D-MeX and BR-MeX on the basis set out in the final methodology. This gives a RoRE range of +0.5% to -0.6%.

However, we note in the analysis that Ofwat present in the recent consultation on C-MeX, that if the methodology is changed, it will be much more unlikely to reach the top end of this range, with no company receiving over c5%. We outlined in our response to that consultation our disagreements with the proposal.

If the proposals are implemented, then it would significantly reduce the upside potential for C-MeX by up to two thirds.

## **2.5. Our revenue RoRE range**

We have retained the modest potential downside RoRE impact set out in the final methodology. Although we do note that the increase in RFI rate, and retaining the same deadband might increase this. Particularly due to the focus on tariff innovation and smart metering.

## **2.6. Our PCD RoRE range**

An area of increase in downside risk is the introduction of PCDs. These are downward only adjustments, that return more than the funding allowances to customers.

At their worst these could tie companies into delivering inefficient solutions and severely limit the ability for innovation and totex outperformance, or create significant double jeopardy alongside, already well calibrated, ODI penalties.

The introduction of PCDs hints at a dissonance in the economic underpinning of the determination. If the ODI rates, based on marginal benefits, do not fully refund customers the costs, then targets are being set beyond the economic level to the detriment of all stakeholders.

We believe that our focused list of PCDs partially mitigates these impacts, and so we have purely modelled the likely impact from missing our proposed PCD profiles, either delay or non-delivery.

We have gone through our list of PCDs and assigned likelihood of delay and non-delivery.

We have got an incredibly strong track record of delivery, having not missed a statutory date for a scheme's delivery since 2010. Therefore, we have modelled the chance of major scheme non delivery as zero, however, there is a slightly higher chance of delay, as for example often the WINEP is still flexible, and dates can change.

For programmes of work such as lead pipe or meters, there is a larger, although still small chance of non-delivery, and a greater chance of delay.

We have then run these probabilities through a Monte Carlo analysis, that suggests at the P90 level, a net penalty position of -0.1% RoRE, and a P10 level of -0.3% RoRE. For the purposes of completing table RR30, we have assumed these all hit in the final year of the period.

## **2.7. Our overall RoRE range**

Taking all of the above into account, this results in the following overall RoRE range shown in Table 3 below:

Table 3: Overall RoRE range.

	<b>P10</b>	<b>P90</b>
Wholesale Totex RoRE	-4.4%	2.2%
Retail Totex RoRE	-0.1%	0.1%
Outcome delivery incentives RoRE	-1.7%	0.8%
Financing RoRE	-1.1%	0.8%
Customer measures of experience RoRE	-0.6%	0.5%
Revenue RoRE	-0.1%	0.0%
PCD RoRE	-0.3%	-0.1%
<b>Total RoRE</b>	<b>-8.3%</b>	<b>4.3%</b>

This shows a significant downward skew overall.

### 3. Conclusions

There are two key conclusions to be drawn from this analysis.

Firstly, the mitigations we have incorporated in our plan to address the negative skew in RoRE we are currently seeing are key to maintaining an appropriate balance of risk and return. If these are eroded, the overall balance of relative risk will be materially worse.

Secondly, the large residual skew in RoRE range needs to be accounted for. We are proposing that this is accounted for by recognising this undiversifiable risk through adjustments to the beta and aiming up in setting the WACC. These are discussed in more detail in WSX31 – Risk and return.