

Appendix 19c

PCs and ODIs

Approach to PCs and ODIs

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Performance Commitment and Outcome Delivery Incentive Approach

Introduction

In developing our plan for the 2020-25 period, we have put our customers at the heart of everything we do. We have completely changed the nature of our conversations with our customers and our focus has been on understanding individual lifestyles and how they shape what customers want, need and expect from us. Our implementation of the six capitals model and Total Impact Value Assessment has also enabled new conversations on how we deliver things, and our wider impact on the Yorkshire environment and economy. Our customers have been frank with us about the services they expect from us, the price they are willing to pay for them, and the type of business they want us to be.

We have listened to customers' aspirations for us and developed a plan that puts excellent and efficient service front and centre of our ambitions for the 2020-25 period. Our Big Goals, performance commitments and outcome delivery Incentives articulate that ambition in more detail and will shape the way our business operates over the next five years and into the longer-term future.

As a result of our deeper understanding of customers' expectations, and also the changing regulatory and political objectives, we have made some significant changes to our Outcomes package and incentives from those in the current period. In this chapter, we set out our overall approach to developing our Big Goals, performance commitments and outcome delivery incentives., This chapter should be read in conjunction with the individual detailed appendices for each performance commitment.

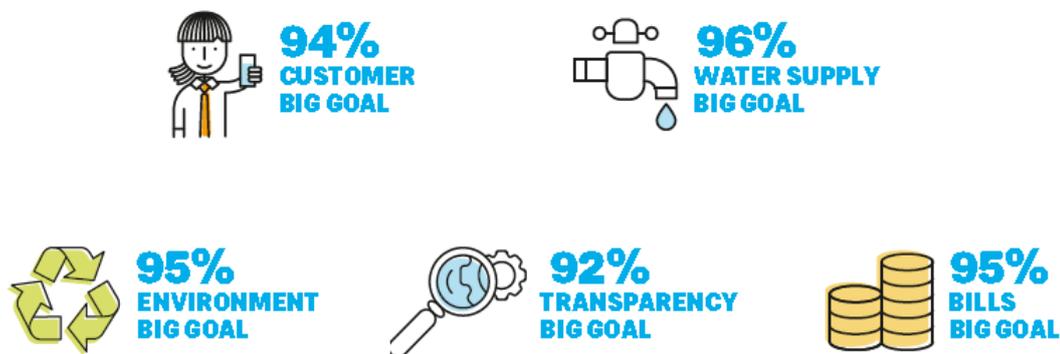
Transforming Outcomes to Big Goals

Continuous customer, stakeholder and colleague engagement informs our day-to-day service delivery and this participation has been crucial to the development of our long-term strategy and our PR19 plan. Since 2015, the scale of our engagement has become the largest and most continuous we have ever undertaken; we have conversed meaningfully with almost 30,000 customers while developing and refining our PR19 plan.

Through the course of our early conversations with customers, we heard how our customers wanted us to simplify the way we communicate with them and make it as meaningful as possible. We live in a complex world that is experiencing rapid change in terms of social, political and environmental circumstances, and our customers want to know that we are addressing these in the services we provide for the Yorkshire region. They also want to know how we are doing in as clear and accessible way as possible, so that they can trust us to deliver the things that matter the most.

Using these insights, we have revised our long-term strategy for the next 25 years. The new strategy 'Not Just Water' features five big goals which deliver our customers' top priorities over the long term. We have shaped and agreed these goals with our customers and stakeholders based on our analysis of future pressures such as population growth and climate change, and opportunities such as the use of totex in the regulatory regime to allow us to innovate in the way we provide solutions.

We are delighted at the level of customer support for our big goals. The average level of support of for the five is almost 95%, with a lowest individual score of 92%. As the Big Goals set the future direction for us as a company, with our customers' support, we have adopted them as our 'outcomes' for the 2020-25 period. We believe that this provides an outstanding foundation for our PR19 business plan.



Transition of our performance commitments for 2020-25

As part of our extensive customer research, we re-examined key customer priorities for both now and the long term to identify the most appropriate changes from our PR14 plan. While the broad priorities for services remain the same, some performance issues have increased in importance, particularly those relating to sewer flooding and leakage.

An important part of this research and engagement was the focus on comparative service performance for common, or near common, metrics. While the feedback has often been difficult to hear, we have listened and understood that our customers expect better from us.

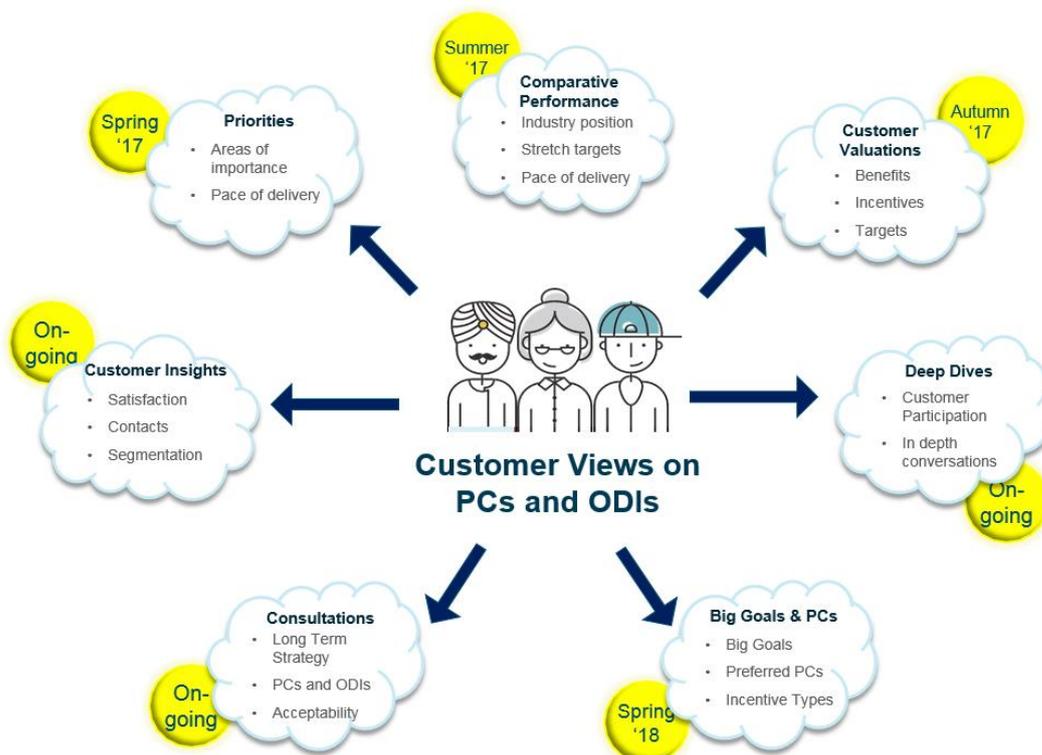
As well as informing our performance ambitions for the remainder of the PR14 period, the feedback has also been incorporated into the development of our performance commitments for 2020-25 and has helped us identify service areas that might benefit from additional commitments, or stronger incentives.

For example, we have included properties receiving low pressure as a standalone commitment for PR19. Although it was previously included in the basket of sub-measures for the 'Stability and Reliability' PCs at PR14, feedback from customers on their priorities for 2020-2025 clearly showed that they place a high value on avoiding the service failures and so should be a more prominent performance commitment.

Our customers have also expressed strong views on their expectations for us as a socially responsible company with a big role to play in conserving and enhancing the Yorkshire environment. We have included a broader range of environmental performance commitments for PR19, exploring emerging areas such as biosecurity and creating value from waste.

Similarly, our customers have told us they have higher expectations of our customer service provision, particularly around how we should be tailoring it to their individual needs. We have proposed a suite of new performance commitments in the residential retail price control to address the need to be more inclusive for all, raise awareness of the additional services we offer through our ‘priority services register’, and check our customers are satisfied with those offerings.

Building on this feedback from customers, we have explicitly adopted an iterative approach, taking the results for the engagement to refine our proposals and then retesting them with customers. Full details of our approach to customer research and engagement are set out in Chapter 5, along with the supporting documents. The figure below outlines the main sources of customer feedback, although it is by no means an exhaustive list. Annex 4 to this document also provides a breakdown of the research and engagement activities that have informed and shaped the development of the performance commitments and incentive rates.



The Yorkshire Forum for Water Customers has been instrumental in challenging us to make sure we are taking these messages on board in our performance commitments. The Forum has helped us to redefine several our draft performance commitments, submitted in May to Ofwat, and has helped ensure that we are targeting the areas that matter the most for customers and the wider environment. The Forum’s letter of endorsement for our performance commitments can be found in Appendix 8p.

We have also responded to the regulatory expectations set out in the Final PR19 Methodology. We have included all the 'common' performance commitments and are supportive of the move towards greater comparability across companies. It has helped us shine a light on our own performance and understand where we are doing things well, and where we need to do better.

Consistent with our Big Goals, we have also developed new performance commitments, or revised existing ones, to conserve the environment, enhance resilience and protect customers who may need additional support from time to time. These are wide ranging issues that inevitably interact and overlap, so it's not always easy to assign a single category to them. All of our environmental commitments speak to safeguarding our resilience to climate change in a sustainable and forward-thinking way. Our sector leading approach to incorporating the 6 capitals in our decisions and articulating the impacts, explicitly aims to promote activities that deliver multiple benefits for the region and society that we serve.

Full details of the transition from our PR14 performance commitments to our 2020-25 commitments are included in Annex 2.

Setting targets for performance commitments

We believe that our ambition to deliver excellent service to customers is clear. We have responded to our customer, stakeholder and regulator expectations, and for those performance commitments that are key priorities we are not waiting for 2020 to start. For internal sewer flooding, leakage, supply interruptions, and pollution incidents we are targeting significant improvements in service in the next two years.

For these common performance commitments, we have listened to the 'industry upper quartile challenge' and have set aggressive targets for the 2020-25 period. As we explain in the relevant appendices for the individual performance commitments, these are based on realistic forecasts of industry-wide upper-quartile performance.

Forecasting industry performance is not a straightforward exercise, both because of potential data comparability issues and the variable levels of ambition amongst our peer companies. We have a strong track record in stringent reporting approaches that place the customers interest first, and we are confident that our high level of compliance with the new shadow reported definitions will be complete by 2020. We welcome the move to standardised reporting in these areas although we are concerned that for some commitments, the industry has had limited time to implement reporting changes.

We have carefully thought through our approach to forecasting and have provided full details in 'forecasting the common performance commitments' supporting document.

In setting the targets for all of our wholesale commitments, we have been guided by cost benefit analysis in the first instance, constrained by overall affordability considerations across the price control and programme as a whole.

Similarly, all our environmental performance commitments are based on cost benefit analysis aiming for the point where marginal costs equal marginal benefits. Our investment optimisation approach, the Decision-Making Framework, selects investments from a range of options according to the greatest benefit within individual price controls and across the whole programme.

Undertaking cost-benefit analysis on an individual performance commitment level is not appropriate given the sophisticated nature of our optimisation approach. Many of our proposed investments deliver multiple benefits across service areas and so the programme as a whole has to be considered. Setting targets at a level where marginal costs equal marginal benefits for an individual performance commitment may well lead to a sub optimal allocation of resources and result in inefficiency. Further details of our decision efficiency approach are set out in Chapter 9 of the business plan, along with details about how we have ensured that our costs are based on a forecast efficient level of expenditure.

In setting our targets, we have also considered our historical performance to date and where available, wider comparative information. In some cases, this is limited, either due to the maturity of reporting or the lack of direct comparability. In these instances, we have considered the maximum and minimum performance possible and expert judgement. Particularly for our residential retail commitments, we have been challenged by the Forum to stretch our targets based on their experience and guidance, which we have adopted subject to any cost-benefit or affordability considerations.

We have also taken on board the regulatory requirement to avoid the use of 'deadbands' around targets that dampen performance incentives. We have kept these to a minimum, always starting from the perspective that targets should be as sharp as possible. We have introduced deadbands where they are in customers interests, particularly for some commitments where comparable industry data is available.

For example, for our asset health measures, customers showed strong support for two sided incentives where outperformance payments could apply as well as underperformance penalties. However, we also know from the recently available comparative data that we are not meeting our customers' expectations to be "industry average as minimum". We have set outperformance payment deadbands at that level to protect customers from contributing to outperformance payments for a level of service they are disappointed in.

Incentives for under and over performance

Our overall package of PCs and ODIs consists of the following:

- 27 bespoke commitments and 14 common commitments.
- 21 are new commitments, 15 are revisions of PR14 definitions and 5 continue from PR14.
- 23 are incentivised with underperformance and out performance payments, 3 are under performance only, 1 is outperformance only and 14 are non-financial incentives (NFIs).

Amongst our non-financial incentives, seven are in retail where we have followed Ofwat’s guidance to focus on C-Mex as the major financial incentive and to avoid risks of double-counting by using NFIs. The rationale behind the use of NFIs for the remaining PCs is summarised in Table One below.

PC Name	Common or Bespoke	PC History	NFI Justification
Integrated catchment management	Bespoke	PR19 New	New measure, reporting not sufficiently mature.
Biosecurity implementation	Bespoke	PR19 New	New measure, reporting not sufficiently mature.
Creating value from waste	Bespoke	PR14 revision	As this is a new measure, approach is at an early stage of development.
Unplanned outage	Common	PR19 New	New measure, reporting not sufficiently mature.
Risk of sewer flooding in a storm	Common	PR19 New	Reporting of the measure is not sufficiently mature
Risk of severe restrictions in a drought	Common	PR19 New	Not proposing any change on the performance target, so have applied an NFI for this reporting period.
Renewable energy generation	Bespoke	PR19 New	Already incentivised through existing energy schemes, e.g. feed-in-tariffs, so a non-financial incentive is appropriate to avoid double counting issues.

Non-financial incentives

We have strengthened our incentives on performance commitments from the current period, building from the premise that financial underperformance penalties and outperformance payments should apply where customers support them. The exception to this approach is the residential retail price control, where we have adopted the Customer Experience measure (C-Mex) as our primary financial incentive. Using non-financial incentives also avoids the risk of counter-intuitive incentives on areas such as affordability and bad debt.

We have also adopted non-financial incentives where the measure is not sufficiently developed, or there is not yet sufficient historical data to support the analysis. For the new common resilience metric relating to drought, we have introduced a non-financial incentive – we are not proposing a performance change from our currently industry frontier service, and so a financial incentive is difficult to justify

For the new resilience metric on risk of sewer flooding in a 1 in 50-year storm, we have concerns that the new industry common measure is not mature enough for financial incentives. We also have similar reservations with the new unplanned outages in the water network price control.

Although these incentives may not have underperformance and outperformance payments, they remain important areas to us and our customers. We have set out our approach to performance reporting and knowledge sharing in Annex 3 to this document.

Financial Incentives

For our financial outcome delivery incentives (ODIs), we have tested our proposals with customers through both qualitative and quantitative techniques. We have seen a marked change in our customers views from the PR14 research we conducted. Our customers now understand ODIs better than before, and support principles behind their use.

We have proposed outperformance as well as underperformance payments for our asset health measures, as our customers have shown strong support for the direct measures as well as the performance commitments that relate to the consequences of asset health (for example sewer collapses and internal and external sewer flooding).



Customer Valuations

Wherever possible our incentives use direct customer valuations from combination of revealed preference, stated preference and experimental and behavioural approaches. This ensures that our incentives are completely in line with the value customers place on service improvements and deteriorations.

We are extremely pleased with the research we have undertaken on customer valuations and know that it contributes significantly to the advancement of valuation techniques through the innovations we have introduced. The customer valuation study surveyed 15,000 people across 6 distinct methodological approaches, with further work on 'triangulating' these values to provide a robust basis for our incentive rates (and cost benefit analysis).

The extensive work on customer valuations and subsequent triangulations provides an update to the incentives we proposed at PR14. As a result, there are some significant changes in the scale of the valuations. We have analysed these variations to 'sense check' the results and identify the factors that could be contributing towards them and have chosen to use our updated valuations for PR19 in all cases, as we are confident that the approach represents a significant step forward in research methodologies.

Further details are provided in the supporting customer research appendices (Appendix 5d-j), including the work we have done with external consultants to validate our incentive rates (supporting document for PCs and ODIs, 'Outcome delivery incentive rate report').

Cost Based Incentives

Despite the exceptional scale and scope of our customer valuations research, there are inevitably some potential limitations in using the information for incentives. The range of services that customers can be asked about in formal quantitative studies is limited due to the cognitive bounds of participants time and attention.

In the hierarchy of valuation approaches, direct market prices are treated as more robust indication of the worth that customers place on a service. Where we can, we have used market-based values to derive incentive rates to make sure the 'price' we place on service improvements is genuinely reflective of customers preferences.

Where there are no market prices or customer valuations available, we have used estimates of marginal costs to inform the incentive rates. This is particularly the case for our asset health measures, where the direct service impact is already valued through the customer facing measure (e.g. mains repairs and interruptions to supply or leakage). We have a sophisticated approach to our asset deterioration modelling which informs our optimisation approach, outlined in the relevant price control chapters in the business plan, that allows us to isolate the marginal cost of a performance change.

As explained above, our approach to optimisation through the Decision-Making Framework specifically aims to maximise the benefits delivered across multiple service areas for investments. As such, deriving an incremental cost would not provide a comparable value, as a unit cost would only hold whilst the rest of the programme was constant. Any change to the overall programme would infer a change in incremental cost as the mix of interventions is disturbed. For this reason, there are few instances where we have been able to use marginal costs in the calculation of underperformance penalties. The asset health measures are the exception to this rule, where the deterioration modelling is an input into the optimisation, and so can be isolated from the main programme level optimisation to provide marginal costs.

We have sought expert advice on the options available to address this issue, and have followed the same approach we used at PR14 (which was subsequently assessed as 'exceptional during the Risk Based Review phase of Ofwat's PR14 determinations). We have assumed marginal benefits equal marginal costs for the underperformance penalty calculations. Further details of this are provided in our support documents and performance commitment appendices. In line with the PR19 Final Methodology, we have calibrated our incentives for the totex sharing mechanism, assuming a 50% sharing rate.

Enhanced Incentives

We have also introduced enhanced incentive rates for the performance commitments where there is strong customer support for improvement beyond the current frontier of industry performance, and where there is comparable and robust performance data across the sector. This includes the four upper quartile common performance commitments, as well as per capita consumption.

For the enhanced incentive rates, we have used the incremental benefit elicited from our customer valuations studies, to ensure that our enhanced rates reflect the value customers place on going beyond specific service levels. We used comparative industry data to set the service levels tested in

the valuations studies, and so are confident that the enhanced rates align with the maximum about that customers would be willing to pay for those specific service improvements.

We have tested our approach and incentive rates with the Customer Forum and have gained support for the incentive rates arising from this approach. We have also tested the outcomes of the package of incentives with customers, including the enhanced rates, and have good levels of support for the range of possible bill impacts between the p.10 and p.90 estimates. Our customers showed strong understanding of this approach, with 85% of customers tested either strongly agreeing or agreeing that they understood that the bill ranges presented represented the extreme ends of the scenarios.

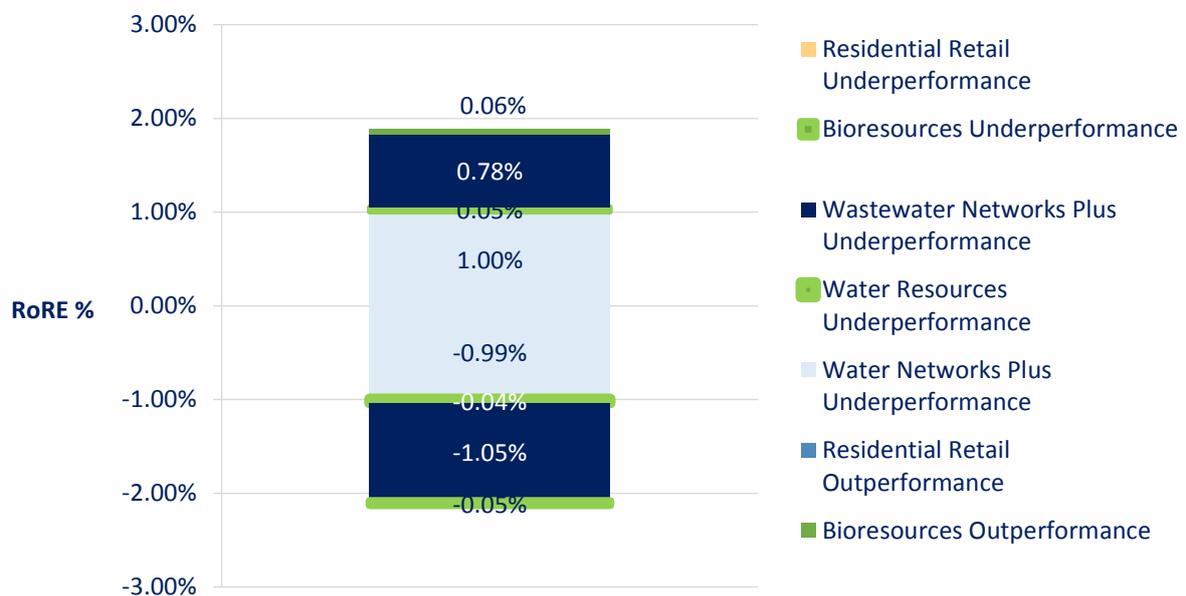
Caps and Collars

We have chosen to not apply individual outcome delivery incentive caps and collars, except in the case of Per Capita Consumption, where we have introduced an enhanced outperformance payment cap to protect customers. As we are aiming to go beyond the industry frontier, the cap ensures that customers will not be subject to outperformance payments outside the range of our predictions.

Overall Balance of Risk and Reward for ODIs

Combining the individual elements of our package of outcome delivery incentives gives us a view of the potential Return of Regulated Equity (RoRE) for the performance commitments.

Total RoRE potential for 2020-25



We worked with an external expert adviser to develop a comprehensive modelling tool, our 'ODI RoRE Risk and Scenario Model' (ORRSM). The ORRSM model combines a monte carlo approach with expert judgement to calculate the potential P10 and P90 across our proposed ODI package.

The model calculates the financial impact arising from differences between outturn ODI performance and performance commitment levels. The ORRSM model calculates a large number of 'possible' financial impacts by randomly drawing outturn performance levels based on probability

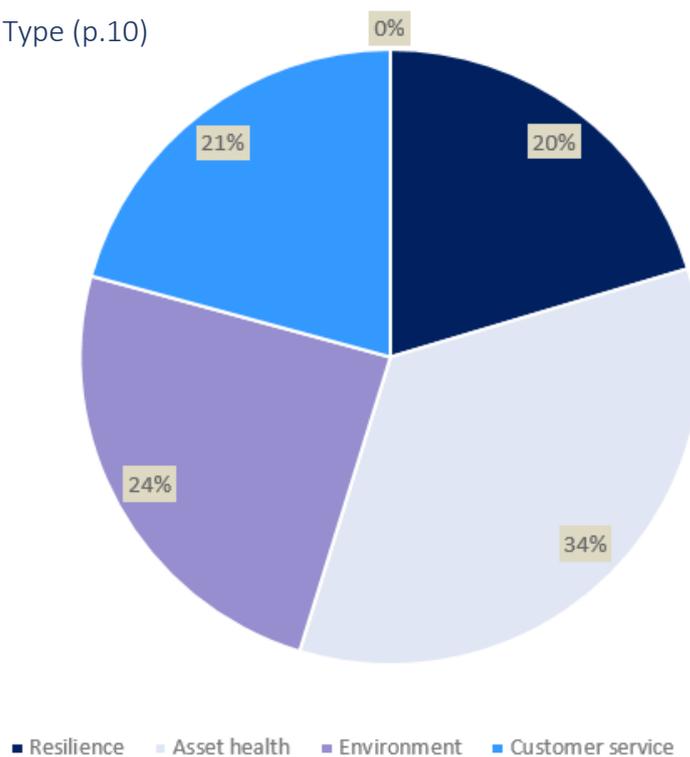
distributions that are assigned at the individual ODI level. The model then selects the P10 and P90 values across the full range of randomly drawn outcomes (i.e. reflects risk at the appointee level) to provide a comprehensive and robust risk analysis.

Importantly, our approach takes account of the fact that it is unlikely that we will simultaneously experience outcomes performance at the ‘extremes’ of distributions across all its PCs. Full details of the approach are provided in the performance commitment appendices and the supporting document ‘ODI RoRE Risk Analysis’, as well as Chapter 13 on Financeability and Risk and Return.

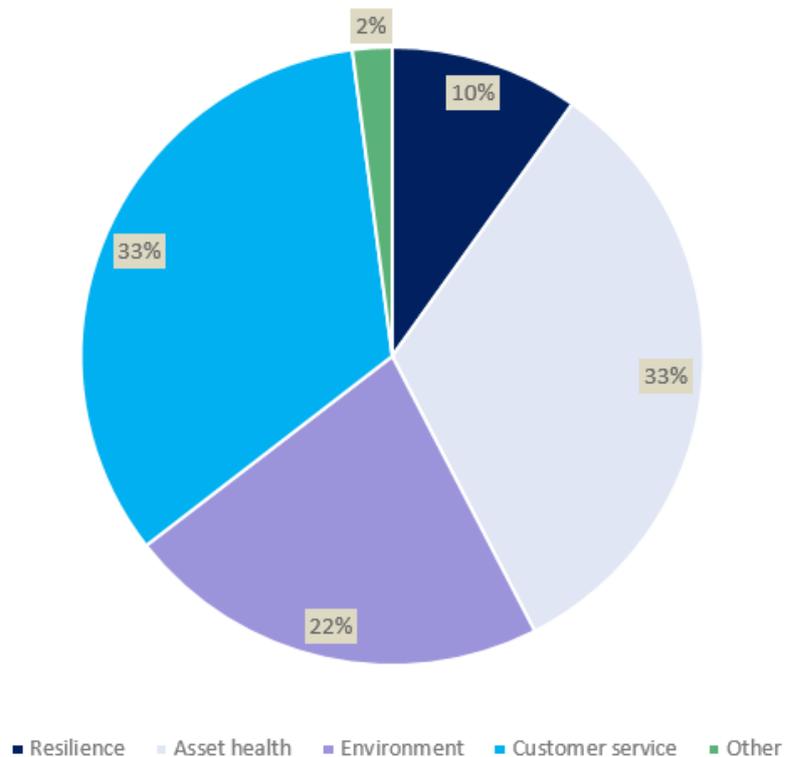
The diagrams below illustrate the breakdown of the RoRE impact across the different categories of outcomes. Specifically, for asset health performance commitments, we have checked the proportion of the RoRE range these relate to, to provide confidence that we are sufficiently incentivising the long term health of our asset base.

	Underperformance (P10)	Outperformance (P90)
Share of revenue impact due to asset health ODIs	34%	33%
RoRE impact of asset health ODIs	-0.72%	0.62%

RoRE by Outcome Type (p.10)



RoRE by Outcome Type (p.90)



As part of our acceptability testing, we presented our overall package of outcome delivery to our customer online panel. The panel members showed high levels of understanding of the ODI package, and strong awareness of the full potential bill impacts. We have also shared the information with the panel to allow them to formulate their view on our ODI package as a whole.

In considering the ODI package, customers gave a range of support for the maximum possible bill impacts for the total ODI package (i.e. the bill effects of the financial impacts of the p.10 and p.90 levels) of 53% to 67%.

We consider this to be solid support, considering that the proposed annual bill changes of £30 reduction in bills (for underperformance penalties) or £20 increase for (outperformance payments) are at the extreme ends of the range. We need to understand it in the context of the 86% overall acceptability support we received for the plan as a whole, which was based on the actual proposed bill increase of £3 per year or £14 over the period.)

Reporting and sharing best practice

We are committed to being open and transparent for all our customers and stakeholders in the way we report on our performance and sharing our insights and best practice. We have introduced an 'open by default' and have revised our performance reporting approach so we can provide customers with regular updates against our performance commitment targets.

Keeping our customers informed of our performance throughout the year will be important for establishing trust and legitimacy in the process for outperformance and underperformance payments. As all of our financial incentives are to be recovered through revenue, we are mindful that there could be some changes to customer bills. While we have proposed a smoothing mechanism to protect customers from unanticipated outperformance payments, we still think even small changes in bills should be as transparent as possible. Further details on the mechanism are provided in Chapter 13 on Financeability, Risk and Return and the Appendix 13h.

Similarly, we have proposed plans to regarding knowledge sharing, especially in regard to areas where we are achieving enhanced outperformance incentive rates. Full details of our approach to this, and our overall reporting are included in Annex 3.

Annex 1 – Allocation of performance commitments to price controls

Summary

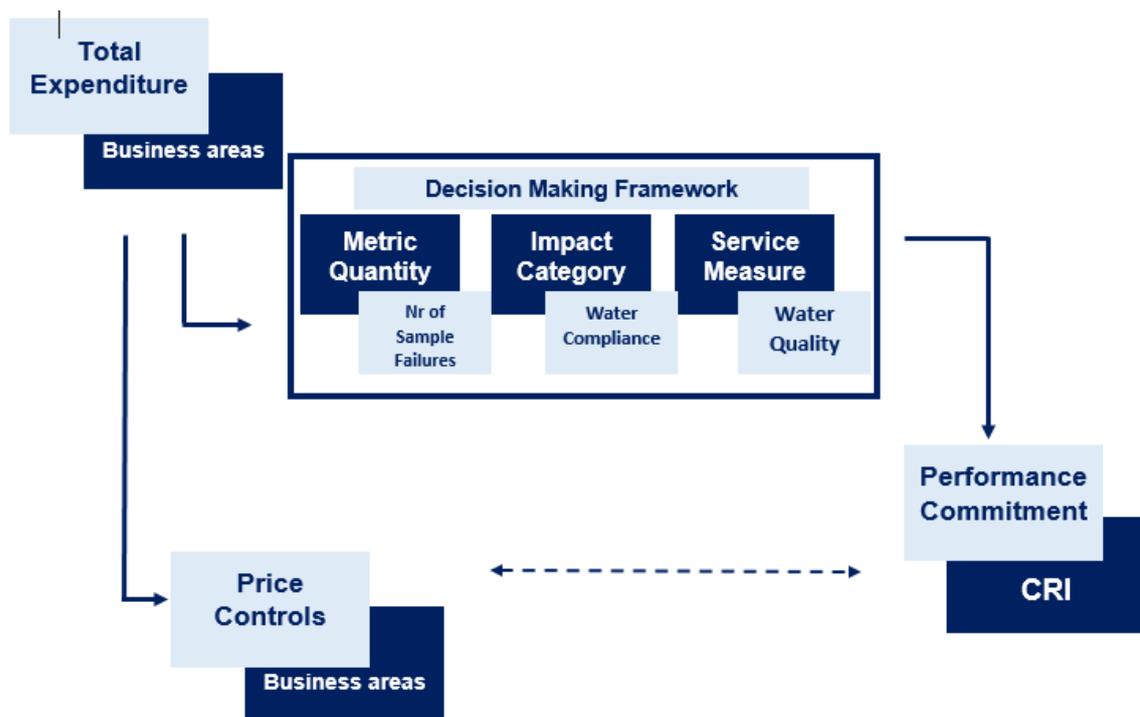
We have allocated performance commitments to the relevant price controls using a total expenditure apportionment approach. The performance commitments are therefore split by price control on the basis of the costs of delivery, rather than the services provided.

The totex apportionment has been allocated systematically using the outputs from our cost-benefit optimiser the Decision-Making Framework (DMF). Chapter 8 of the business plan sets out our approach to expenditure planning using the Decision-Making Framework.

There are three steps to the allocation approach:

1. Total expenditure is allocated, via 'business area categories' (as defined by accounting separation), to the service measures in our Decision-Making Framework.
2. Service Measures are mapped to performance commitments where there is a direct one-to-one relationship. For service areas that do not map directly to performance commitments are allocated across all performance commitments based on relevant weightings.
3. All allocations are reviewed to 'sense' check the results.

Our performance commitment allocation to price control methodology and outputs has been audited by our third-party assurance provider, Deloitte.



Total expenditure to Service Measures

We use our Decision-Making Framework investment optimiser to where investment is needed (i.e. where there are service risks and needs) and select the best and most efficient investments to address those needs (using cost benefit analysis framed in terms of the 6 capitals). To assess service risks and service benefits, we use a 'Service Measure' to describe and quantify the impacts. The service measures can be thought of as the evaluation metric.

Total expenditure for an investment scheme identifies the most relevant business areas. The scheme investments articulate the performance risk offset (i.e. the number of compliance failures avoided) and the benefit delivered (i.e. the social value created by increasing water quality), and the total expenditure required to deliver it.

For each service measure, we have calculated the total expenditure required for the performance changes, to provide us with a £totex per service measure.

Service measures to performance commitments.

The service measures have been mapped to our performance commitments where there is a 'one-to-one' relationship. For the performance commitments that cannot be mapped directly to service measure, these have mapped them to business areas.

Using expert judgement, each business area is disaggregated into performance commitments with percentages assigned to each one of them, with higher % weights towards the common performance commitments.

Combining the service measure mapping provides the total expenditure per performance commitment. As the total expenditure can also be broken down by business areas, which are linked to price controls, therefore performance commitments can be allocated to price controls.

Sense checking

All the allocations are reviewed to ensure that the performance commitment mapping to price controls is intuitive and reflects the primary purpose.

For example, a number of our service measures cut across all areas of the business, such as 'health and safety'. Using the allocation method, this would result in small amounts of totex being assigned to all price controls, and therefore all performance commitments. For performance commitments where there is a clear 'primary' category (for example water supply interruptions) we have therefore allocated the entire performance commitment to the water networks plus price control price control.

Annex 2 – Performance commitment history

The table below outlines how our PR14 performance commitments have transformed for the 2020-25 period. Most of our performance commitments from PR14 are either direct continuations, revision or components of our PR19 performance commitments.

	PR14 Performance commitment	PR19 PC equivalent	PC Status (APP1)	Commentary
1	Drinking water quality (WA1)	Drinking water quality (CRI)	PR14 Revision	The PR19 measure of drinking water quality is a revision from the PR14 commitment. The PR19 measure now uses the DWI Compliance Risk Index (CRI)
2	Significant Drinking Water Events (WA2)	N/A	Discontinued as a performance commitment	Significant drinking water events is captured as part of the overall DWI CRI measure. We are also committing to publishing our 'non-regulatory' performance indicators as part of our Big Goal for transparency, in which we include the DWI 'Events Risk Index' which also covers this measure.
3	Drinking Water Quality Contacts for Taste, Odour and Discolouration (WA3)	Drinking water contacts	PR14 Revision	The PR19 drinking water quality performance commitment includes contacts about taste, odour and appearance. It has been amended to remove contacts around illness.
4	Long Term Stability & Reliability Factor: Water Quality (WA4)			
	<ul style="list-style-type: none"> Water treatment works coliforms non-compliance (%) Service reservoir coliforms non – compliance (%) 	CRI	PR14 Revision	These PR14 components are captured by our PR19 Drinking Water Quality commitment as part of the CRI measure. Water treatment works turbidity issues would result in unplanned outages, which are not captured in the new asset health measure.
	<ul style="list-style-type: none"> Water treatment works turbidity (nr) 	CRI and indirectly part of unplanned outage.	Various	
	<ul style="list-style-type: none"> Enforcement (incidents number) 	N/A	Discontinued as a performance commitment	The PR14 enforcement measure will not be continued as a specific PC in PR19. We have not received any corrective actions since 2003 but the DWI will continue to enforce corrective actions if required.

	PR14 Performance commitment	PR19 PC equivalent	PC Status (APP1)	Commentary
	<ul style="list-style-type: none"> Reactive equipment failures 	Unplanned outage	PR19 New	The PR14 sub measure of reactive equipment failures is linked to the PR19 unplanned outage performance commitment.
5	Leakage (WB1)	Leakage	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements
6	Water Supply Interruptions (WB2)	Water supply interruptions	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements
7	Water Use (WB3)	Per capita consumption	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements
8	Long Term Stability & Reliability Factor: Water Networks (WB4)			
	<ul style="list-style-type: none"> DG2 Pressure (nr) 	Low pressure	PR14 Continuation	Although no longer part of the Long Term Stability & Reliability Factor: Water Networks, Low pressure is a direct continuation of the PR14 continuation as a standalone Performance Commitment for PR19.
	<ul style="list-style-type: none"> Total no. bursts 	Mains repairs	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements
	<ul style="list-style-type: none"> Interruptions > 12 hours (nr) 	Significant water supply events	PR14 Revision	This definition has been modified to measure events rather than properties affected. See the performance commitment appendices for further details.
	<ul style="list-style-type: none"> Customer contacts – discolouration (nr/1,000 population) 	Drinking water contacts	PR14 Revision	The PR19 drinking water contacts performance commitment includes contacts about taste, odour and appearance. It has been amended to remove contacts around illness.
	<ul style="list-style-type: none"> Distribution Index TIM (as 100 – Mean Zonal Compliance) (%) 	Drinking water quality (CRI)	PR14 Revision	The PR19 Drinking water quality measure replaces the PR14 Mean Zonal Compliance Index.
	<ul style="list-style-type: none"> Reactive equipment failures 	Unplanned outage, interruptions to supply.	Various	The PR14 sub measure of reactive equipment failures is linked to the PR19 supply interruptions and unplanned outage performance commitments.
	<ul style="list-style-type: none"> Security of supply index (SoSI) 	Indirectly though Leakage, PCC and Drought risk	Various	The SoSI measure in PR14 is indirectly captured by our PR19 leakage, per capita consumption and drought risk performance commitments.
9	Internal Flooding (SA1)	Internal sewer flooding	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements

	PR14 Performance commitment	PR19 PC equivalent	PC Status (APP1)	Commentary
10	External Flooding (SA2)	External sewer flooding	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements
11	Pollution Incidents (SA3) (Cat 3 Only)	Pollution incidents	PR14 Revision	The PR19 definition has changed to now include incidents arising from our wastewater treatment works, in line with rest of sector and as per the EPA reporting guidelines.
12	Long Term Stability & Reliability Factor: Sewer Networks (SA4)			
	<ul style="list-style-type: none"> Sewer collapses (nr) 	Sewer collapses	PR14 Revision	The PR19 definition has been updated to reflect the shadow reporting requirements
	<ul style="list-style-type: none"> Pollution incidents (CSO+RM+FS+SPS) (nr) Equipment failures (nr)/ reactive equipment failures 	Pollution incidents	PR14 Revision	These components of the PR14 performance commitment are captured in the PR19 pollution incidents performance commitment.
	<ul style="list-style-type: none"> Properties flooded due to other causes (nr) Properties flooded due to overloaded sewers excluding sever weather (nr) Sewer blockages (nr) 	Internal sewer flooding and external sewer flooding	Various	This is captured as part of the PR19 internal sewer flooding and external sewer flooding performance commitments.
13	Length of River Improved (WC1)	Length of river improved	PR14 Revision	<p>The PR19 length of river improved PC has been revised from those at PR14 to include:</p> <ul style="list-style-type: none"> Non WFD schemes that are eligible for contribution towards the target Schemes not associated with our assets, or not on our land are eligible, but must be funded by us.
14	Length of River Improved (SB4)			
15	Number of solutions we deliver by working with others (WC2/SB3)	Working with others	PR14 Continuation	This performance commitment remains the same as that outlined in PR14.
16	The amount of land we conserve and enhance (WC3/SB5)	Land conserved and enhanced	PR14 Revision	The performance commitment remains broadly the same, however there the individual measurements have been simplified.

	PR14 Performance commitment	PR19 PC equivalent	PC Status (APP1)	Commentary
17	Recreational visitor satisfaction (WC4)	N/A	Discontinued as a performance commitment	This performance commitment is being discontinued and is not captured as part of our PR19 performance commitments. The performance commitment has consistently received low levels of support throughout the first 3 years of this period.
18	Yorkshire's Bathing Waters that exceed the required quality standard (SB1)	Bathing water quality	PR14 Continuation	This performance commitment remains the same as PR14.
19	Long Term Stability & Reliability Factor: Waste Water Quality (SB2)			
	<ul style="list-style-type: none"> • Sewage treatment works non-compliance 	Treatment work compliance	PR19 New	The PR14 sub measures will be replaced by the PR19 Treatment Works Compliance performance commitment.
	<ul style="list-style-type: none"> • Population equivalent (PRE) % non-compliance 			
	<ul style="list-style-type: none"> • Unplanned maintenance (nr)/reactive equipment failures 			
20	Energy Generated through Renewable Technologies (RC2, SC1, WD1)	Renewable energy generation	PR14 Revision	The energy generation performance commitment has changed from being a measure of renewable electricity generation, to a measure of renewable energy generated from biogas; whatever form of energy the biogas is ultimately used for. The measure is more specifically related to bioresources.
21	Waste Diverted from Landfill (RC2, SC2, WD2)	Creating value from waste	PR14 Revision	The PR14 performance commitment has evolved to our new Creating Value from Waste to broaden out the benefits we capture in the measure.
22	Service Incentive Mechanism (SIM) - Qualitative (RA1)	C-Mex	PR19 New	The new C-Mex measure replaces the PR14 SIM measure.
23	Number of Service Commitment Failures (RA2)	C-Mex, Water Supply Interruptions, Internal sewer flooding, External sewer flooding.	Various	The PR14 service commitment failures PC is duplicated within several of the proposed PR19 PCs including C-Mex, Water Supply Interruptions, Internal sewer flooding, External sewer flooding.

	PR14 Performance commitment	PR19 PC equivalent	PC Status (APP1)	Commentary
24	Overall Customer Satisfaction (RA3)	C-Mex	PR19 New	Overall customer satisfaction is now captured as part of C-Mex.
25	Cost of Bad Debt to Customers (RB1)	Cost of bad debt	PR14 Continuation	This performance commitment remains the same as that outlined in PR14.
26	Number of People who we Help to Pay their Bill (RB2)	Direct support given to customers	PR14 Continuation	This performance commitment remains the same as that outlined in PR14.
27	Value for Money (RB3)	Affordability of bills	PR19 New	This has been evolved into the PR19 affordability of bills performance commitment.

Annex 3 – Performance reporting and knowledge sharing

Introduction

This annex covers three topics:

- Our plans regarding the reporting of performance against our Performance Commitments (PCs) and Outcome Delivery Incentives (ODIs);
- The steps we are taking to enhance the overall incentive effect of our PCs and ODIs;
- Our plans regarding knowledge sharing, especially in regard to areas where we are achieving enhanced outperformance incentive rates.

Our overall package of PCs and ODIs consists of the following:

- 27 bespoke commitments and 14 common commitments.
- 21 are new commitments, 15 are revisions of PR14 definitions and 5 continue from PR14.
- 23 are incentivised with underperformance and out performance payments, 3 are under performance only, 1 is outperformance only and 14 are non-financial incentives (NFIs).

Amongst our non-financial incentives, seven are in retail where we have followed Ofwat’s guidance to focus on C-Mex as the major financial incentive and to avoid risks of double-counting by using NFIs. The rationale behind the use of NFIs for the remaining PCs is summarised in Table One below.

Summary of non-retail NFI ODIs

PC Name	Common or Bespoke	PC History	NFI Justification
Integrated catchment management	Bespoke	PR19 New	New measure, reporting not sufficiently mature.
Biosecurity implementation	Bespoke	PR19 New	New measure, reporting not sufficiently mature.
Creating value from waste	Bespoke	PR14 revision	As this is a new measure, approach is at an early stage of development.
Unplanned outage	Common	PR19 New	New measure, reporting not sufficiently mature.
Risk of sewer flooding in a storm	Common	PR19 New	Reporting of the measure is not sufficiently mature
Risk of severe restrictions in a drought	Common	PR19 New	Not proposing any change on the performance target, so have applied an NFI for this reporting period.
Renewable energy generation	Bespoke	PR19 New	Already incentivised through existing energy schemes, e.g. feed-in-tariffs, so a non-financial incentive is appropriate to avoid double counting issues.

Reporting on our performance

Unparalleled levels of transparency

Transparency is one of the five big goals (or outcomes) within our new long-term strategy. As part of our drive for transparency, we have committed to becoming the first water company in the UK to be 'open by default'; that is, to make available most of our operational and service data by 2020. By becoming 'open by default', we aim to empower citizens to scrutinize data and create a new cohort of 'citizens regulators' holding the company to account on its performance.

In doing so, we will be providing information that links directly to our performance commitments. For example, the Water Situation report, to be published weekly, will include a summary of the status of all our major sources of water, including daily rainfall, river levels, reservoir stocks and customer demand. In this instance, the availability of data would indicate how we are performing against our per capita consumption and the risk of severe restrictions in a drought performance commitments.

In addition to implementing the 'open by default' principle, we will continue to develop our specific reporting of our performance against all of our PC package. We have worked hard to make our reporting approach as easily accessible for all our customers and stakeholders as we can, and we will build on progress since 2015 with some additional initiatives beyond 2020.

Annual Performance Report

The Annual Performance Report (APR), published by the Board, informs our customers, stakeholders and Ofwat about how we are performing against our commitments as well as providing information on our service levels, costs and financial performance.

In relation to our performance, within the APR we will continue to present details of:

- How we are doing for each of our performance commitments against our targets;
- Where information is available on how we are performing in relation to the rest of the industry.
- The financial incentives (either under or out performance payments) and how these are calculated;
- How our numbers have been assured through independent assurers and the Yorkshire Forum for Water Customers.

To make this information accessible to our customers, we also summarise the key points in our customer summary report. This is developed to distil and present the information that is important to our customers. We will make use of a variety of media types to present this information in ways that are accessible to all customers and stakeholders. As an example, we



have videos explaining our company structure, available here:

<https://www.yorkshirewater.com/reports>.

The APR and customers summary reports will be available on the website (<https://www.yorkshirewater.com/reports>), and promoted through digital channels and through other accessible formats relevant to customers' needs.

Quarterly reports

The APR provides a comprehensive annual summary and an essential foundation for the determination of in-period incentives. However, as part of our commitment to transparency, we will also keep customers up-to-date on our performance through the publication of quarterly updates. The quarterly updates will be published by our Board and will include information on how we are performing against our targets, as well as case studies and examples of the work we are doing to achieve this. The areas of focus will be shaped both by our performance (e.g. explaining any notable over or underperformance) and seasonal circumstances (e.g. analysing our performance – good, or if relevant bad, during extreme weather events).

Yorkshire Forum for Water Customers

In addition to the assurance of the APR, the Yorkshire Forum for Water Customers (the Forum) will have a role to approve the suitability and/or completion of schemes for several of our performance commitments. For example, with the Working with Other performance commitment, we have



outlined that “In order to guarantee the range and quality of the partnerships delivered, the partnerships will only be considered to contribute to the performance commitment once agreed by the Yorkshire Forum for Water Customers.”

We will therefore proactively engage with the Forum throughout the 2020-2025 period, ensuring our performance aligns with their expectations.

Reaching all our customers

It is incredibly important to us that we make information about our performance accessible to all our customers. To ensure customers can access this information, we will continue to develop how we communicate through digital and other accessible formats. For example, we have recently improved our website to make it more accessible to customers with visual impairments, learning disabilities or whose first language is not English.

Through our inclusive customer service performance commitment we will work to understand how we make this information accessible to all our customers, no matter what their needs are. (Chapter 18, Residential Retail, provides further details along with the specific inclusive customer service appendix 19c).

Non-regulatory measures

In addition to the regulated performance commitments set out in the business plan, we will also report on the following key performance indicators. These cover areas that are of importance to our business, but that are not appropriate as performance commitments, at this point in time:

- **Workforce resilience:** the number of people employed within Yorkshire Water whom we support in developing science, technology, engineering or mathematics (STEM) formal qualifications to a GCSE level of above.
- **Diversity and inclusion:** the diversity of our business, specifically, the ethnic, disability and gender diversity of our workforce.
- **Responsible business standards:** the independent assessment of our corporate responsibility and sustainability credentials.
- **Charity and volunteering:** the support for the work of WaterAid in Ethiopia through fundraising and volunteering of Yorkshire Water employs.
- **Treatment capacity:** the treatment service provided by the bioresources business to Yorkshire Water's waste water treatment works. Further details are outlined in Chapter 17, Bioresources.
- **Event Risk Index (ERI):** measures the risk arising from water quality events. This is covered in further detail in Chapter 14, Water Network Plus.
- **Best tariff:** measures the number of customer accounts that are reviewed every year to ensure they can choose the best tariff for their circumstances. This is covered in further detail in Chapter 18, Residential Retail.

Enhancing the overall incentive effect of our PC package

We believe that the steps described in the previous section on reporting will each contribute to an increased level of awareness amongst our customers, stakeholders, investors and media commentators. This increased awareness will act to sharpen the overall reputational incentive effects of our PC package.

We will also continue to strongly support the use of Discover Water to present and illustrate performance across the industry. This will have an ever-increasing impact on our reputation, based on comparative performance. Our customer research highlights that presenting our customers with details of how we compare in the industry comparison can greatly affect opinions on how we are performing - in both positive and negative ways.

We are also taking a number of other steps internally that will ensure that performance on our PCs is at the very heart of our business. These will increase the internal incentive effects of our PC package:

- We have met Ofwat's further requirements in the "Restoring Sector Balance" consultation to update our dividend policy to make the link to incentive performance clearer;
- Our performance related executive pay policy was already linked to performance on SIM and other incentives, and we have broadened and sharpened these links with both an

annual performance element and long-term incentive plan focused on key performance measures including our PCs; For more information, please see Chapter 4 of our PR19 plan, Governance and Assurance.

Knowledge sharing

Chapter 10 of our main business plan describes our innovative use of the six capitals model. One of the six capitals is Intellectual Capital, with the associated focus on knowledge emphasising how important sharing and learning are to deliver the best results for our customers. Chapter 10 also covers the need to transform our current business to deliver for our customers, and one of the key themes for our transformation activity is how we learn as an organisation. This covers all aspects of learning – from our colleagues, our regulators, our peers – and from exemplars in other industries and other geographies.

In addition to learning from others, we also recognise the importance of helping others to learn from us. Where we have included proposals for enhanced outperformance (and underperformance) incentives, it is important that we articulate our plans to share the knowledge of how we achieved the exceptional level of performance necessary to qualify. This ensures that other companies can benefit from our insights, so that their own customers can rapidly receive the same benefits as customers in Yorkshire. Our plans have two broad strands – specific publications and direct working with others.

Knowledge sharing publications

We envisage two tiers of publications. Where we have developed a major new initiative, we will publish comprehensive descriptions of our approach and the benefits that they deliver for our customers. Our most recent example of this is our approach on resilience which builds on Ofwat’s own work on corporate and financial resilience to give a detailed framework covering assets and operations as well. These have recently been published on a dedicated micro-site:

www.yorkshirewater.com/resilience

In some cases, it will be important to share details not just of the destination point, but also the journey to get there. For example, our publications on the six capitals approach take the reader on the journey as we develop and assure this new policy approach. The diagram on page 7 provides an overview of this sort of approach.

The second tier of publications will be rather different in character, providing shorter updates on progress with key initiatives. We envisage that some of these will link to the “hackathons” that we are running as part of our commitment to openness. We use hackathons to engage with experts in developing new and innovative solutions to challenges we face. For example, we recently asked experts to develop solutions to assist us in meeting our leakage challenges. This resulted in the identification of a new approach to ‘data visualisation of sound’ which is being used to help with the further detection of leaks. As we progress on our ambitious target to reduce leakage, we will report on the progress with initiatives such as these in this second tier of publications.

Direct working with others

Publications are a great way of communicating efficiently with a wide audience. However, there is a saying that the most effective knowledge sharing is a contact sport – by which we mean it is important to interact directly with others wishing to learn. So as part of our transformation thinking, we plan to develop several different ways of working with others to share our insights and learn from them.

In addition to events such as our hackathons, we envisage that there may be merit in offering targeted open days to allow our colleagues with specific areas of expertise to interact directly with their counterparts in other companies. For relevant subjects such as anything to do with management of customer debt or assistance for customers in vulnerable circumstances, we would seek to ensure that the audience was not limited to water sector peers and involves other utilities. It may be possible to facilitate this through engagement with UKRN. We are already engaging with a wide range of partner organisations in our region and nationally, so including water sector peers in a natural extension of this.

One concern that we have with these initiatives is that there could be a danger of a lowest common denominator effect, with the dialogue progressing only at the speed of the slowest participant. To guard against this, we will develop the concept of “excellence pods”, working with a small subset of likeminded high-performing companies to develop ideas more rapidly and/or in greater depth. We have already piloted this approach with a peer in the electricity sector, progressing our thinking on further ideas to help customers manage debt as a result.

Annex 4: Research and Engagement Activities for Performance Commitments

WHOLE BUSINESS PC'S

PC	Priorities	Outcomes	Deep Dives	Consultation	Valuations	Incentives
 Working with Others	✓	✓	✓	✓		% of totex
 Land Conserved	✓	✓	✓	✓	✓	£1,132 per Ha
Biosecurity		✓		✓		-
 River Quality	✓	✓	✓	✓	✓	£176,120 per km
 Education		✓		✓		Marginal Cost £4 per hour
Creating Value		✓		✓		-
 Carbon	✓	✓				Shadow Carbon Price £94,400 Kt
Catchment Management	✓		✓	✓		-
 Water Recycling	✓	✓	✓	✓		Cost of Treatment £26,333 MI
 Developer Services		✓		✓		Revenue Based

MAINLY RETAIL PC'S

PC	Priorities	Outcomes	Deep Dives	Consultation	Incentives	Consults
 C-Mex	✓	✓	✓	✓	Revenue Based	-
Affordability of Bills	✓	✓	✓	✓	-	-
Direct Support		✓		✓	-	-
Bad Debt		✓	✓	✓	-	-
 Awareness of Priority Services		✓		✓	Marginal Cost	£4,583
Priority Services Satisfaction		✓		✓	-	-
Inclusive Customer Service	✓		✓	✓	-	-
Gap Sites		✓		✓	-	-
Voids Verification				✓	-	-

MAINLY WASTE PC'S

	PC	Priorities	Outcomes	Deep Dives	Consultation	Valuations	Incentives
	Wastewater Pollution Incidents						£83,452 per incident ★
	Internal Sewer Flooding						£36,219 per property ★
	Treatment Compliance						£420,749 per %
	Sewer Collapses						£104,420 per 1000km
	Wastewater flooding risk						-
	External Sewer Flooding						£20,746 per incident
	Bathing Water Quality						£635,718 per beach
	Surface Water Management						£4,865 per Ha
	Quality Agricultural Products						£165 per %
	Renewable Energy Generation						

MAINLY WATER PC'S

	PC	Priorities	Outcomes	Deep Dives	Consultation	Valuations	Incentives
	Drinking Water Quality						-£2,346,389 per CRI score ★
	Water supply interruptions						£4,503,203 per minute ★
	Leakage						£79,888 per MI ★
	Unplanned outage						-
	Mains repairs						£588,418 per burst/1000km
	Per capita consumption						£10,287 per l/p/d
	Drinking water contacts						£5,923 per contact
	Significant water supply events						£265,407 per event
	Low pressure						£139,214 per property
	Repairing or replacing Customer owned pipes						£449 per pipe

Develop ideas

We engaged with members of Accounting for Sustainability, the University of Cambridge Institute for Sustainability Leadership and the Natural Capital Coalition, as well as others, to develop our 6 capitals approach.

We research best practice theory to inform our development, e.g. on six capitals we looked at the IIRC and Forum for the Future models of the capitals, and the Crown Estate's Total Contribution.



Assure our work

Our work was assured and endorsed by the Forum, and independent experts.



Publish

Through our website, we published our approach, supported by a series of case studies. We share these at conferences, through social media and in discussion with our networks.



Sustainable accounting and the six capitals



Developing our 6 Capitals approach

Inform policy

To inform policy discussions, we presented our work at the Water UK Environment Policy Advisory Group. We have recently joined the Environment Industries Commission in their work with Defra to develop policy and tools. We have shared our approach with the EA.



Engagement

We presented the 6 capitals work at several industry conferences including ENDS Natural Capital 2018, Net-Impacts Conference 2018, Asset Management, Future of Utilities.



Feedback

Feedback has been essential in shaping our final approach. We asked for feedback following the publication of our approach; we received positive feedback and interest in our detailed methodology. This has also led to invitations to share our approach with others like Croda Chemicals and Coop.

Collaborate

We engaged with the Natural Capital Coalition, and colleagues from United Utilities, Thames Water and Welsh Water, about the potential for a Water Sector Guide to accompany the Natural Capital Protocol.

We also instigated with Scottish Water an UKWIR project that developed the water industry's first standardised tool for Natural and Social Capital, working with Eftec. This will resume after the Price Review when capacity becomes available again.