Anglian Water

APPOINTEE DATA TABLES COMMENTARY

IAP Response April 2019

RESPONSIBLE BUSINESS OF THE YEAR 2017
BUSINESS IN THE COMMUNITY

THE QUEEN'S AWARDS FOR ENTERPRISE: SUSTAINABLE DEVELOPMENT 2015

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SUMMARY OF CHANGES - SEPTEMBER 2018 TO APRIL 2019

The table below summarises the changes to the input cells in the Appointee data tables. Where appropriate table commentary has been updated.

Note: Where line numbers are changed in the data tables, we have re-numbered the commentary accordingly, even if the commentary itself has not been updated.

Data tables	Lines amended	Years amended
App1 - Performance Commitments and Outcome Delivery Incentives	(ODIs) PR19ANH_3 (CRI) PR19ANH_5 (leakage) PR19ANH_8 (pollution incidents) PR19ANH_14 (treatment works compliance) PR19ANH_22 (vulnerable customers quantitative) PR19ANH_36 (standards for inclusive service) PR19ANH_37 (helping those struggling to pay)	N/A
App1a - Outcome Delivery Incentive (ODI) - Additional Information	New table - all lines	All years
App1b - PC and ODI Supplemental Measurement Information	New table - all lines	All years
App2 - Leakage Additional Information and Old Definition Reporting	8, 9 - new lines	All years
App3 - Abstraction Incentive Mechanism - Surface and Ground Water Abstractions under the AIM Threshold	No change	-
App4 - Customer Metrics	All lines - new or amended definitions	All years
App5 - PR14 Reconciliation - Performance Commitments	(COLUMNS) W-A2 (21, 26)	2018/19
	W-A4 (21, 25, 26)	2018/19
	W-D4 (21, 24, 27, 30)	2018/19 to 2019/20
	S-A2 (21, 27)	2018/19 to 2019/20
	S-A3 (21, 27)	2018/19 to 2019/20
	S-C3 (21, 26)	2018/19
App6 - PR16 Reconciliation - Sub-measures	No change	-

Data tables	Lines amended	Years amended
App7 - Proposed Price Limits and Average Bills	21-23	2021/22 to 2024/25
	24	2020 to 2025
	39-41	2018/19
App8 - Appointee Financing	8, 11, 13-14, 47, 49, 51-52	2019/20
App9 - Adjustments to RCV from Disposals of Interest in Land	2-3, 13-14	2018/19
	10-11, 21-22	2014 to 2020
App10 - Financial Ratios	1-12, 23-33	2020/21 to 2024/25
App11 - Income Statement based on the Actual Company Structure	1-3, 7-9, 14-15	2020/21 to 2024/25
App11a - Income Statement based on a Notional Company Structure	1-3, 7-9, 14-15	2020/21 to 2024/25
App12 - Balance Sheet based on the Actual Company Structure	6, 9, 13, 15, 22, 24, 26-27, 31, 37, 41, 45	2020/21 to 2024/25
App12a - Balance Sheet based on a Notional Company Structure	6, 9, 13, 15, 22, 24, 26-27, 31, 37, 41, 45	2020/21 to 2024/25
App13 - Trade Receivables	1-2, 11	2019/20 to 2024/25
	6, 8, 12	2020/21 to 2024/25
App14 - Trade and Other Payables	1-2, 8-9, 16-21	2019-20 to 2024/25
	12	2020/21 to 2024/25
App15 - Cashflow based on the Actual Company Structure	5-6, 10, 13, 18	2020/21 to 2024/25
App15a - Cashflow based on a Notional Company Structure	5-6, 10, 13, 17	2020/21 to 2024/25
App16 - Tangible Fixed Assets	1-3, 26-27, 41-44, 46	2019/20
	9-11, 25-27, 41-44, 46	2020/21 to 2021/22
	10-11, 25-27, 41-44, 46	2022/23 to 2024/25
App17 - Appointee Revenue Summary	Calculated table	-
App18 - Share Capital and Dividends	No change	-
App19 - Debt and Interest Costs	1-3	2019/20
	4	2020/21 to 2024/25
	5	2019/20 to 2022/23

Data tables	Lines amended	Years amended
	6	2019/20 to 2023/24
	7	2019/20 to 2021/22, 2023/24 to 2024/25
	8-11, 13, 15-17, 21	2019/20 to 2024/25
App20 - Cost of Debt / Analysis of Debt	Table removed	-
App21 - Direct Procurement for Customers	No change	-
App22 - Pensions	12-15	2020/21 to 2024/25
App23 - Inflation Measures	No change	-
App24 - Input Proportions	1, 2, 4-5, 7-11, 13-17, 19, 21-23	2020/21 to 2024/25
App24a - Real Price Effects and Efficiency Gains	No change	-
App25 - PR14 Reconciliation Adjustments Summary	No change	-
App26 - RORE Scenarios	19, 21, 23, 27, 31, 34, 40, 42, 44, 46, 48-49, 51, 57, 60, 65, 67, 70-71, 73, 77-78	2020/21 to 2024/25
App27 - PR14 Reconciliation - Financial Outcome Delivery Incentives Summary	6, 23	2017/18 to 2018/19
	1, 16	2018/19 to 2019/20
	7, 24	2018/19
App28 - Developer Services (Wholesale)	7-9, 24-28	2018/19
	11	2020/21 to 2024/25 and 2020/25
App29 - Wholesale Tax	1-16	2019/20
	26-29, 31, 33-36, 38, 42-43, 84-87, 89-92	2020/21 to 2024/25
App30 - Void Properties	No change	-
App31 - Past Performance	Table removed	-
App32 - Weighted Average Cost of Capital for the Appointee	21-23, 33	2020-25
App33 - Wholesale Operating Leases Reclassified under IFRS16	No change	-

FINANCIAL MODEL CHANGES

In line with action reference ANH.CA.A10 the updated financial model does not overwrite the CPI(H) + RPI wedge calculation in 2020/21 or the TDS discount rate.

F-input Sheet

Cost to serve:

- Cost to serve per metered water customer (CTS) (row 10)
- Cost to serve per metered sewerage customer (CTS) (row 11)
- Cost to serve per metered dual service customer (CTS) (row 12)
- Cost to serve per unmetered customer (CTS) (row 13)
- Cost to serve per unmetered sewerage customer (CTS) (row 478)
- Cost to serve per unmetered dual service customer (CTS) (row 479)

The latest version of the Financial model (17z) includes an amendment to the calculation of the allowed revenue per customer used in the average bill calculation.

The financial model now requires the inputting of a single cost to serve each year for all customer groups (with a weighting of costs and customers numbers from companies business plans (R1) subsequently being applied to this single average cost to serve to arrive at a dual customer cost in the 'bill module' tab).

In order to align with this update to the financial model, a single average cost to serve has been applied in the F_Input tab.

The single cost to serve values for each year has been derived based upon:

> Total residential retail costs (including recharges for principle use assets) (opex plus depreciation, excluding third party services) (R1 line 14)
>
> minus
>
> Total depreciation on legacy assets existing at 31 March 2015 (R1 line 11)
>
> divided by
>
> Household connected (R1 line 16) deflated to 2017/18 prices.

The same overall costs are recovered when this single cost of save is applied as would have been recovered when individual cost to serve values were applied to each customer group.

Legacy Item

- Row (220-226)
- Row (261-276)
- Row (283-289)
- Row (323-328)

Our profiling remains consistent with our original plan as explained in the "Revenue feeder model adjustment" section of 15e Financial Model Annex of our original plan. Our reasoning for the profiling is explained in the section "Notional Company Analysis", para 1 chapter 8 – "Aligning Risk and Reward"

Total residential retail costs

- Row (584-589)

This has been populated based upon table R1 however including recharges for principle use assets to reflect accurate level of costs.

APP1 – PERFORMANCE COMMITMENTS AND OUTCOME DELIVERY INCENTIVES

We provide detail on our overall approach to developing performance commitments (PCs) in chapter 13 of our Plan. This commentary provides additional supporting information on how we have populated data table App1. We have grouped this commentary by table column.

For C-MeX, D-MeX and the abstraction incentive mechanism (AIM) we can confirm that we have followed Ofwat's detailed guidance for completing this table.

Changes post IAP

We have made a limited number of changes to our performance commitments and ODIs in response to Ofwat's IAP feedback. These are summarised below.

- **CRI** - removed the four bespoke performance commitments covering CRI sub-components and added financial incentives to the common CRI performance commitment in light of the metaldehyde ban. Altered the deadband (column 77), collar (column 72), underperformance incentive rate (column 97) and P10 (column 132) in light of this. Further explanation provided in our IAP response to actions ANH.OC.A23-25.
- **Leakage** - modified the PCL (column 41), levels of caps (columns 87 and 92), collars (columns 67 and 72), deadbands (columns 77), P10 (column 132) and P90 (column 149). This is in response to Ofwat's feedback and recent leakage performance. This is explained further in the Focus area: Leakage chapter of our IAP response and actions ANH.OC.A10-13.
- **Pollution incidents** - in response to revised EA guidance on storm tanks, we have recosted our investments for AMP7 and AMP8. We have reflected this in our marginal cost for the ODI. This results in an increased underperformance incentive rate. We have updated the incentive rate (column 97), marginal cost (column 154), underperformance collar (column 72) and P10 performance (column 132) to reflect this. This is explained further in our IAP response to actions ANH.OC.A2, 21.
- **Treatment works compliance** - we have modified the PCL (column 41) to be 100% compliance in AMP7. This is explained further in our IAP response to actions ANH.OC.A34.
- **Supporting customers in vulnerable circumstances (quantitative)** - we have modified the performance commitment to be measured in % customers on the PSR rather than total number. This means we have changed the PCL (column 41), the incentive rate (column 101) and the cap (column 87). This is explained further in our IAP response to action ANH.AV.A3.
- **British Standards Institution - Standard for Inclusive Service** - this is a new performance commitment, so data across all columns is new. We provide further details on this performance commitment in our IAP response to action ANH.AV.A2.
- **Helping those struggling to pay** - this is a new performance commitment, so data across all columns is new. We provide further details on this performance commitment in response our IAP to action ANH.AV.A1.

Specific areas highlighted for consideration in the final methodology

The table below outlines how the development of our suite of our AMP7 PCs align with Ofwat's guidance in the PR19 Final Methodology.

Coverage of areas identified in the final methodology

Area	Commentary
Vulnerability	We have included two PCs relating to supporting customers in vulnerable circumstances. These are 1) a quantitative assessment based on the number of customers on the priority services register, and 2) a qualitative assessment of the support we provide this group of customers by an independent panel. We believe that these PCs will work strongly together and capture the full impact of our plans to support customers in vulnerable circumstances.

Area	Commentary
Gap sites and voids	**Household void sites –** we have included a PC on household void sites. This is based on the percentage of properties that we classify as void that are confirmed to be unoccupied. **Non-household void sites** – in the non-household market, retailers are responsible for meter reads and can make the physical inspection of the meter on the most efficient basis. It is also in retailer's interest to bring properties into occupancy in order to maximise their margin. We therefore believe that it would be unnecessary to assign a PC to wholesalers given their limited role in changing NHH voids into charged status. **Household gap sites** – we believe the incentives already in place (including PCs for leakage reduction which will see us continue to shift the frontier) provide sufficient incentive to reduce the number of gaps sites. As such we do not consider that an additional PC relating to gap sites is proportionate. **Non-household gap sites** – we have an incentive mechanism in place to encourage retailers to identify gap sites. We offer £350 for each gap site that is identified by a retailer and brought into the market.
Abstraction Incentive Mechanism (AIM)	We developed this PC in line with the AIM guidance. We have identified four sites as suitable for the AIM in conjunction with the Environment Agency (EA). Our incentives are based on our societal valuations.
Scheme specific performance commitments	We have considered the need for scheme specific PCs. Generally we believe our PCs linked to outcomes mitigate the need for any scheme specific (or input) performance commitments.
Resilience	We are retaining our AMP6 performance commitment, 'population supplied by a single supply system' as a bespoke resilience PC. This is in addition to the two common resilience PCs and the leakage and PCC PCs which form part of the WRMP. Our estimation of customer benefit for this PC is based on long term (over 5 day) interruptions to supply. Our valuation of the Water Supply Interruption PC is based on short term interruptions (less than five days) so there is no double counting of the benefit to customers.
Environment	We have a number of bespoke PCs linked to the environment. This includes our WINEP, Natural Capital, Bathing Waters attaining excellent status and two carbon performance commitments.
Coverage across price control	We have a number of PCs that provide coverage across all of the price controls. This includes our carbon and social and natural capital performance commitments.

Column 7: Price control allocation

We have allocated 26 PCs completely to the most relevant price control. We highlight below our approach where a PC applies to more than one price control.

- D-MeX – allocated based on the proportion of grants and contributions expected to be received from the water and wastewater network plus price controls during AMP7. This is drawn from rows 13 and 29 in table App28. This has been used as a proxy for engagement with developer customers and the appropriate basis for allocating revenue impacts associated with performance in this area.
- Risk of severe restrictions in a drought – allocated equally between water resources and water network plus price controls.
- Treatment works compliance – allocated between water and wastewater network plus price controls based on the number of works failures for the company in the first two years that the 2016-2020 Environmental Performance Assessment (EPA) thresholds have applied.

Allocating the treatment works compliance performance commitment

	2016	2017	TOTAL	% failure
Water	4	3	7	39%
Recycling	3	8	11	61%

- Operational and capital carbon – allocated equally between all five price controls.
- Non-household retail satisfaction – allocated between water and wastewater network plus based on proportion of water and wastewater revenues collected from retailers in 2017/18. In 2017/18 we collected £240.6m revenues, with £122.9m for water services, £89.5m for sewerage services and £28.2m for trade effluent services. This results in an allocation of 51% to water network plus and 49% to wastewater network plus.

Allocating the NHH retailer satisfaction performance commitment

Service	£m	%
Water	**122.9**	**51**
Sewerage	89.5	37
Trade effluent	28.2	12
Wastewater total	**117.7**	**49**

- Natural and social capital – allocated equally between the water resources, bioresources, water and wastewater network plus and retail price controls.
- Water Industry National Environment Programme (WINEP) – allocated between water resources and wastewater network plus based on the proportion of obligations that have a water resources impact and a water quality impact (with wastewater discharge quality being allocated to the wastewater network plus control). Of the 2,103 obligations included in this PC, 1,782 relate to water quality at water recycling centres, 283 relate to water resources and 38 to fisheries, biodiversity and geomorphology (considered water resources for this allocation). This results in an allocation of 85% to wastewater network plus and 15% to water resources.

Allocating the WINEP performance commitment

Obligation type	No. obligations	%
Water quality	**1,782**	**85**
Water resources	283	13
Fisheries, biodiversity and geomorphology	38	2
Water resources total	**321**	**15**

Column 16: ODI type

Our rationale for the type of Outcome Delivery Incentive (ODI) selected is provided in the PC chapter of the business Plan.

Column 17: ODI form

For all ODIs we are proposing financial incentives linked to revenue.

Column 18: ODI timing

All of our ODIs are in-period, except 'Bathing waters attaining excellent status' which is end of AMP. Our rationale and approach is supported by customers and our Customer Engagement Form. Our rationale and customer support for this proposal is provided in the performance commitments chapter of the main business plan narrative.

Column 25: Special cost factor

We have identified two PCs associated with special cost factors. These are Leakage and PCC. We have not identified performance commitments that link to enhancement expenditure cases in this column.

Column 27: Asset health

PCs selected from the Ofwat long list of asset health performance commitments are flagged as asset health. This relates to 14 of our 35 performance commitments.

Column 28: NEP

We have identified the WINEP PC as being wholly linked to the NEP. We have also identified the AIM as being partially linked.

Column 30: Customers' relative priority / importance

We have used a wide range of evidence from customers to assign the relative priority.

We have rated customer relative priority using the acceptability research on our outline business plan carried out by Accent on our behalf. Customers were asked to rate each of our proposed performance commitments either as of high, medium or low importance. We have used this as the starting point for assigning priority, and triangulated the results with other evidence from customers from broader engagement.

We have engaged customers on our two new performance commitments, 'British Standards Institution - Standard for Inclusive Service' and 'Helping those struggling to pay'. We have engaged customers on our proposed performance commitments and levels of performance through the online community. Generally customers are supportive of these performance commitments. However as they were not included in Acceptability research alongside the other performance commitments we have not assigned relative priority in the same way.

Column 31: Past performance levels (where available)

Our CEF reviews our current performance across all existing PCs on a regular basis, including examining historical trend data and forward extrapolation of current performance improvement trends. The proposed 2019/20 levels were also included in our acceptability research (Annex 13g), in the context of recent historical performance.

The CEF requested additional assurance on this area by Jacobs. The CEF concluded that the proposed 2019/20 initial service levels area a reasonable basis for starting the AMP7 PCs.

- Compliance Risk Index (CRI) and sub-measures – for water treatment works, service reservoirs and water supply zones our forecast for the end of AMP6 and into AMP8 and AMP9 is based on our average performance from 2014/15 to 2017/18. For supply points, we have estimated our performance based on an average of our surface water supply point outputs and a targeted maximum number of compliance failures.
- Water supply interruptions– our forecasts for 2018/19 and 2019/20 are consistent with our Annual Performance Report (APR) and are based on achieving performance 50% of the way between our target and maximum ODI outperformance payment.
- Leakage – we have entered past performance levels for leakage based on the current definition. We note that this is different from the common definition that will be adopted by all companies in AMP7.
- Per Capita Consumption (PCC) – this is our forecast in the Water Resources Management Plan (WRMP). It is based on our experience in AMP6 and our expectation for meter exchanges in the remainder of this AMP. Performance will be measured on a three year average basis, but three years of data is not currently available. As such forecast performance is reported as follows:
  - 2017/18 is based on that year only
  - 2018/19 is based on a two year average
  - 2019/20 is based on the three year average.
- Internal Sewer Flooding – we have not entered historic performance prior to 2016/17 as this is when the new definition was introduced. Our forecasts for 2018/19 and 2019/20 are consistent with our Annual Performance Report (APR) forecasts of achieving maximum outperformance payments for the AMP6 ODI. The performance associated with the ODI outperformance payments has been pro-rated based on the relationships between our current definition and the AMP7 common definition.

- Pollution Incidents - our forecasts for 2018/19 and 2019/20 are consistent with our APR forecasts of achieving performance that is 50% between our target and maximum ODI outperformance payment for our AMP6 Performance Commitment. This also assumes that we meet out target of having zero category 1 and 2 pollution incidents.
- Risk of severe restrictions in a drought – this is based on deterioration from our current performance to the forecast position at the start of AMP7 derived for the WRMP. We have calculated our performance both as the absolute percentage of population at risk and the risk over a 25 year period. We believe the definition guidance is unclear about which figures to report in this table. Following discussion with our assurance providers, we have reported our performance on an in period basis as we believe this provides the most meaningful and transparent for customers. We estimate our baseline to be 70.3% of the population at risk on a 25 year average basis and our performance commitment level represents 3.1% of the population at risk on a 25 year average basis.
- Risk of Sewer Flooding in a Storm – as this is a new measure we are developing our understanding of our performance. Our forecasts are based on maintaining the 2017/18 level of performance.
- Total mains bursts – we have not entered historic performance prior to 2016/17 due to the new definition. Our forecasts for 2018/19 and 2019/20 are based on meeting the same trend of improvement used in setting Performance Commitment Levels (PCLs).
- Unplanned Outages – as this is a new measure we are developing our understanding of our performance. Our forecasts are based on maintaining the 2017/18 level of performance.
- Sewer Collapses – our forecasts for 2018/19 and 2019/20 are based on maintaining the average level of performance of the first three years of AMP6.
- Treatment Works Compliance - our forecasts for 2018/19 and 2019/20 are based on maintaining the average level of performance of the first three years of AMP6.
- Percentage population on a single supply system – based on the business forecast to meet the AMP6 PCL.
- Low Pressure – Our forecasts for 2018/19 and 2019/20 are consistent with our APR forecasts of achieving maximum outperformance payments for the AMP6 ODI.
- External Sewer Flooding - we have not entered historic performance prior to 2016/17 as this is when the new definition was introduced. Our forecasts for 2018/19 and 2019/20 are consistent with our APR forecasts.
- Reactive mains bursts – our forecasts for 2018/19 and 2019/20 are based on maintaining the average level of performance of the first three years of AMP6.
- Bathing waters attaining excellent status - based on the business forecast to meet the AMP6 PCL.
- Abstraction Incentive Mechanism (AIM) - we have explained our forecasts for 2018/19 and 2019/20 for each AIM abstraction in our commentary to App3.
- Supporting customers in vulnerable circumstances (qualitative) – there is no historic performance. We will begin the panel assessments in AMP7.
- Supporting customers in vulnerable circumstances (quantitative) – based on benchmarking with the energy sector and a glide path to achieve the 12.8% of customers on the Priority Services Register (PSR) by the end of AMP7 (the PCL). Our forecast from 2017/18 actuals is based on having 1.4% of households on the PSR by the end of AMP6
- Managing void properties – our forecast of our performance is based on the delivery of ongoing and planned activity to minimise the number of long term voids.
- Non-household retailer satisfaction – our 2017/18 performance is based on our outturn was 90% for Operational Performance Standards (OPS) and 78% for Market Performance Standards (MPS) and our current Net Promoter Score (NPS) of 1.24. Our forecast performance for 2018/19 and 2019/20 is based on maintaining NPS at the level of Anglian Water as a whole until the start of AMP7. For OPS and MPS we have assumed linear improvement from our 2017/18 performance to 90% for OPS and 95% for MPS.
- Operational carbon – reported historic performance based on the AMP6 PC, which is reduction from the 2015 baseline. Our AMP7 performance commitment will be a reduction in the 2020 baseline so performance between AMPs is not directly comparable.

- Capital carbon – our forecast for the end of AMP6 is based on achieving our current PCL.
- Social and natural capital – as these performance commitments centre on the delivery of a future strategy, there is no past performance to report.
- Water quality contacts - based on the business forecast to meet the AMP6 PCL and maintain current performance.
- Event Risk Index (ERI) – for the final years of the AMP, our forecast performance is based on our average since 2015.
- Unplanned Outages – as this is a new measure we are developing our understanding of our performance. Our forecasts are based on maintaining the 2017/18 level of performance.
- BSI - Standard for Inclusive Service – we are currently working hard to secure this accreditation and expect it to be confirmed shortly.
- Helping those struggling to pay – as a new performance commitment, we are working to understand our current level of service.

Column 41: 2020-25 Performance commitment levels

Our approach to determining, choosing and testing performance commitment levels is described in detail in the performance commitments chapter of the business Plan narrative. We also describe how we have engaged with customers on our proposals.

Our PCLs was an area of considerable scrutiny from the CEF. They conducted a deep dive into the basis for our proposals. The CEF considered in areas where we had discretion, we had demonstrated a clear link between evidence from customer engagement and research on valuations and the proposed performance commitment levels. The CEF concluded there was a reasonable level of support for our proposals.On average, across measures, 70% of customers thought the performance commitment proposals were stretching.

The approach to setting performance commitment levels for our two new performance commitments 'British Standards Institution - Standard for Inclusive Service' and 'Helping those struggling to pay' are discussed in our main IAP response.

Leakage

To maintain consistency with other columns in table App1 we have entered our proposed leakage performance commitment level as megalitres per day (Ml/d). We have calculated the performance commitment levels using the most up to date data available to us through the Discover Water website. This is expressed as litres per property per day; however for customer consultation and for the purpose of investment planning we have converted the target into Ml/d to aid understanding and decision making. In line with the Final Methodology requirements, we have also converted these figure into a percentage reduction figure. The equivalent values for each of the performance commitment levels are presented in the table below. Our incentive rates for leakage are still presented as £ million per Ml/d.

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Ml/d	184	181.8	178.8	175.7	172.6	169.6
% Change	0.00%	-1.20%	-2.83%	-4.51%	-6.20%	-7.83%

Natural Capital and Social Capital are based on reporting against a future strategy and are left intentionally blank.

Column 46: Longer-term projections

- CRI and sub-measures – our target is for full compliance with CRI. However this is will be very difficult to achieve due to the potential for the actions of individuals or third parties to affect our performance. This aspiration is represented in our Plan. For water treatment works, service reservoirs and water supply zones our forecast for the end of AMP6 and into AMP8 and AMP9 is based on our average performance from 2014/15 to 2017/18. For supply points, we have estimated our performance based on an average of our surface water supply point outputs and a targeted maximum number of compliance failures. Through our metaldehyde strategy, we will target reductions in the supply point contribution to CRI by the end of AMP7, with a forecast

of one metaldehyde exceedance by 2024. Looking ahead a further ten years to 2034, our long term strategy is to eliminate all metaldehyde exceedances. Our CRI for supply points is set as a glide-path between these points.

- Water supply interruptions – our long term ambition is to improve performance in this area to around three minutes by the end of AMP9. We believe this to be close to the maximum level achievable in our context of a flat geography with a dispersed rural network. There is no support from customers for investment to go beyond this level of performance.
- Leakage - our long term projection is in line with the WRMP. This contains further ambitious reductions in the long term.
- PCC - our long term projection is in line with the WRMP. This contains further ambitious reductions in the long term.
- Pollution Incidents - based on continuing the improving trend from AMP7 in AMP8 and AMP9.
- Internal Sewer Flooding - based on continuing the improving trend from AMP7 in AMP8 and AMP9.
- Risk of severe restrictions in a drought – maintenance at zero based on the WRMP.
- Risk of sewer flooding in a storm - our aspiration to to reduce the number of customers at risk to zero. We will keep our long term forecasts for this performance commitment under review and as further information is revealed about our current performance, the underlying risk and investment required to improve we will update our long term forecast ahead of AMP8.
- Total mains bursts - our long term forecast is based on maintaining the health of our assets.
- Unplanned Outages - our long term forecast is based on maintaining the health of our assets.
- Sewer Collapses - our long term forecast is based on maintaining the health of our assets.
- Treatment Works Compliance - our long term forecast is based on our target to achieve 100% compliance.
- Percentage population supplied by a single supply system - our long term projection is in line with the WRMP. This would see us reach the maximum level achievable by the end of AMP9.
- Properties at risk of persistent low pressure - our long term forecast is based on maintaining the health of our assets.
- External Sewer Flooding - we are projecting a further reduction of 25 incidents per year in both AMP8 and AMP9.
- Bathing waters attaining excellent status – our aspiration is to work with third parties beyond AMP7 to deliver further reductions. However we believe reductions beyond the PCL may require investment to improve the assets of third parties. We will keep our long term forecasts for this PC under review.
- Abstraction incentive mechanism – we expect obligations in the WINEP to remove the need for the AIM at our currently selected sites, so we have not provided a long term forecast.
- Supporting customers in vulnerable customers (qualitative and quantitative) - for the quantitative PC, our long term projection is to achieve and then maintain 15% of households on the PSR. For the qualitative performance, our projection is maintain performance at a panel assessment for 40. As this PC matures we expect the Panel assessment to become more challenging, with excellent performance being judged relative to improving performance in AMP7.
- Managing void properties – our long term projection is based on maintaining our performance from AMP7.
- Operational carbon - our long term target is to be carbon neutral by 2050. We have not entered annual values as performance is measured against the baseline at the start of each AMP.
- Capital carbon - our long term projection is a reduction of 70% against the 2010 baseline.
- Non-household retailer satisfaction – our long term forecast is based on achieving 100% OPS and MPS by during AMP8, and we will strive to outperform the service levels. For NPS, our long-term forecast is based on our ambition to deliver truly excellent performance for all types of customers. A score of 30 NPS would put us on par with leading retailers, such as Apple and Marks & Spencer.
- WINEP – we have not provided a forecast of the possible scale of WINEP in AMP8 and AMP9. These will be determined by future WINEP obligations set by the EA.

- Water quality contacts – the forward forecast is based on maintenance of the current position, although our ambition is to deliver further improvements in the longer term (reflected in AMP9). We have not forecast improvement or degradation during AMP7 as the impact of increased pressure management and leakage optimisation on performance is not yet understood. We will continue to monitor our performance in this area and revisit these longer term projections as AMP7 progresses.
- ERI – there is very limited data available for the ERI. Our forward forecast based on a glide path to our best ever performance in AMP8 and maintaining that level in AMP9.
- BSI - Standard for Inclusive Service - we intend to retain our accreditation beyond AMP7.
- Helping those struggling to pay - we expect to maintain performance at 30% beyond AMP7.

Natural Capital and Social Capital are based on reporting against a future strategy and are left intentionally blank.

Column 62: Financial ODI may accrue or apply

For 21 of our ODIs, financial incentives will apply every year. The exceptions to this are:

- PCC - we are proposing that financial incentives will apply in the fourth and fifth years of AMP7, to allow time for the roll-out of smart meters to begin affecting performance which is calculated based on a three year average. This is explained further in chapter 13 of the business Plan.
- Bathing waters attaining excellent status - we are proposing an end of period ODI for this PC. Our rationale is supported by customers and the CEF. This is explained further in chapter 13 of the business Plan.
- Non-household retailer satisfaction - we are proposing that financial incentives apply from year three of AMP7. This is to allow time for the market to further develop before incentives apply. This is explained further in chapter 13 of the business Plan.
- WINEP - financial incentives do not apply in the final year of AMP7 as delivery of obligations in this year is in line with the WINEP obligations and does not represent outperformance.

Column 67, 72, 87 and 92: Enhanced and standard underperformance penalty collar and outperformance payment caps

The collars represent the level of performance at which maximum incentive are reached each year. We provide further explanation of our approach in our IAP response to action ANH.OC.A3.

Our proposed caps and collars are based on evidence from customers about the scale of incentives they believe are appropriate and their allocation between measures. The caps and collars are set at the level of performance each year that results in the maximum incentive being applied (either outperformance incentive payment or underperformance penalty payment).

Applying the range to individual incentives: our approach

Our approach is based on the evidence gathered through our Outcome Delivery Incentive Research. This was conducted by ICS on our behalf and included quantitative surveys with 600 customers and a number of follow up focus groups. ICS's report is available as Annex 13d to our Plan.

Step 1 - customers define the maximum incentives with customers

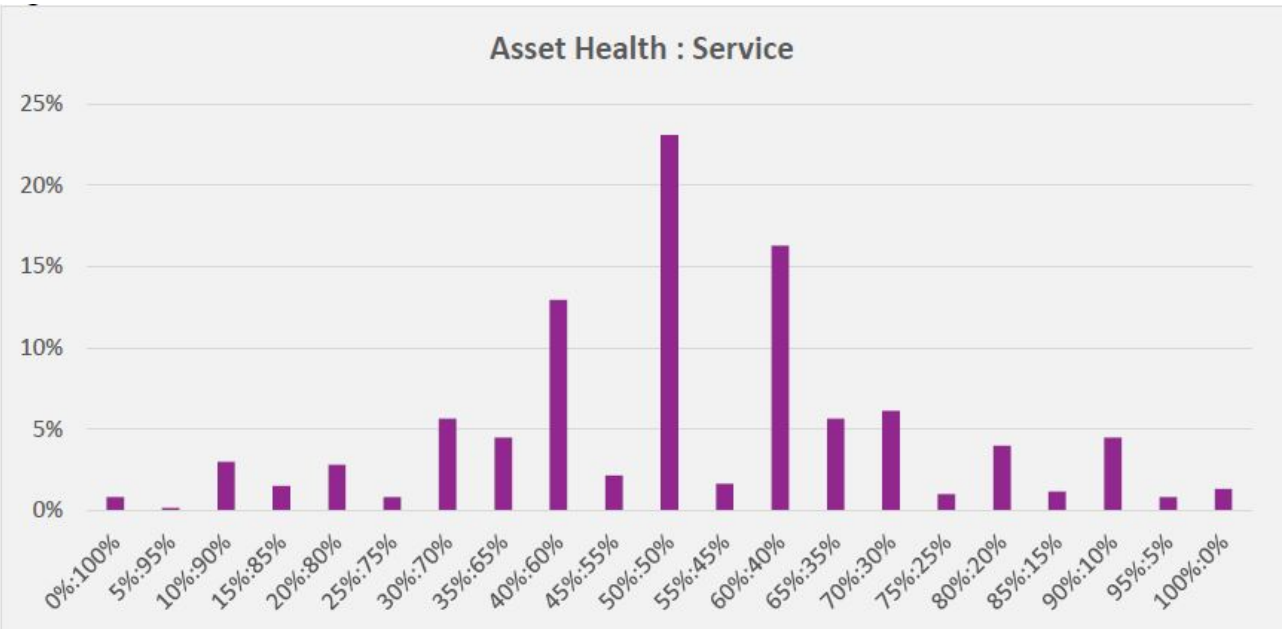
We engaged with customers on the potential scale of incentives, presented as monthly and annual bill impacts.

Based on our engagement with customers, a range of evidence shows customers support a RORE range of around 2% for outcome delivery incentives including the customer experience measures, C-MeX and D-MeX. This range translates to roughly +/- £350 million of incentives over the period 2020-2025. This RoRE range (again presented as a bill impact) was also tested with customers through acceptability research on the outline plan.

Step 2 - customers allocate the scale of incentives between asset health and service

We asked customers how incentives should be allocated between asset health and service. Customers viewed service and asset health as equally important to incentivise and allocated approximately 50% of incentives to services measures and 50% to asset health.

Figure 1 Customer views on weighting incentives between asset health and service



This means that we have allocated approximately £175 million of incentives to service and £175 million to asset health.

Step 3 – customer views derive incentives for individual performance commitments

For each financial performance commitment, we asked customers how important they thought it was to be financially incentivised in that area.

For each service measure we have calculated the weighting based on customer views. Based on this weighting we have allocated the £175m between the PCs. We have done the same for asset health PCs. This is shown in the following tables.

This provides the maximum incentives that customers consider appropriate for each measure. We have set the underperformance collars each year in line with these maximum incentives.

Our proposed service incentives

Performance commitment	Incentive range AMP7 (£m)
Leakage	22.2
Pollution incidents	22.2
Bathing waters attaining excellent status	18.1
Internal sewer flooding	18.1
Supporting customers in vulnerable circumstances (qualitative and quantitative)	19.5
Per capita consumption	13.9
Percentage of population supplied by a single supply system	13.9
Abstraction incentive mechanism	13.9
Water Industry National Environment Programme	12.5
Water supply interruptions	12.5
Non-household retailer satisfaction	8.3

Our proposed asset health incentives

Performance commitment	Incentive range AMP7 (£m)
External flooding from sewers	27.7
Sewer collapses	26.0
Mains bursts	26.0
Treatment Works compliance	24.3
Properties at risks of persistent low pressure	20.8
Unplanned outages	19.1
CRI	23.3
Water quality contacts	7.8

Step 4 - triangulate the results with other sources of customer evidence

Before finalising our proposed incentive ranges we triangulated the results with others sources of customer evidence. This has resulted in adjustments for three PCs.

1. Leakage - we propose that up to £54m of incentives (outperformance incentive and underperformance penalty) are applicable during AMP7. We explicitly sought customer views on our proposed enhanced incentives and bill impact for leakage. The range is based on scale of enhanced incentives supported by customers through our 'Be the boss' engagement, presented as a £4 bill impact.
2. Supporting customers in vulnerable circumstances (qualitative and quantitative) - we proposed a lower incentive range than the output of step 3. We propose that £7.25m of incentives are applicable to each PC (£14.5m total) in AMP7. The incentive range proposed is based on that considered acceptable by vulnerable customers in a series of focus groups, presented as a £1 bill impact. We propose any outperformance in this area is ring-fenced and reinvested in services to support customers in vulnerable circumstances. Further details are provided in response to action ANH.OC.A56.
3. Non-household retailer satisfaction - to account for developments in the market and to allow the net promoter score sample size to increase, we are proposing that incentives apply from 2022/23. We are proposing that £5m of incentives (outperformance incentive and underperformance penalty) are applicable during AMP7. This means we are forgoing the incentives allocated in the first two years of AMP7.

Our approach to determining caps and collars is driven by evidence from our customers. This is an area where customers have directly shaped our business plan. Our development of this package was robustly challenged by our CEF, its valuation sub-group and is reflected in our IAP gradings from Ofwat.

Column 77: Underperformance penalty deadband

For most PCs we are not proposing deadbands. For these PCs the deadband is set at the same level as the PCL.

The following PCs include an underperformance deadband:

- Leakage
- Unplanned outages
- Sewer collapses
- Treatment works compliance
- External sewer flooding
- Reactive mains bursts
- Bathing waters attaining excellent status
- Abstraction incentive mechanism
- Non-household retailer satisfaction.

Our full rationale and customer support for our proposed deadbands is provided in the PCs chapter of our Plan and in our IAP response to action ANH.OC.A3.

Column 82: Outperformance payment deadband

For most Performance Commitments (PCs) we are not proposing deadbands. For these PCs the deadband is set at the same level as the PCL.

The following performance commitments include an outperformance deadband:

- External sewer flooding
- Non-household retailer satisfaction.

Our full rationale and customer support for our proposed deadbands is provided in the PCs chapter of our Plan and in our IAP response to action ANH.OC.A3.

In reviewing this table post IABP we have corrected an error which set very narrow deadband outperformance deadband for WINEP.

Column 97: Underperformance penalty incentive rates

We provide additional explanation of our approach to calculating incentive rates in our business plan and in our IAP response to action ANH.OC.A2.

For the majority of PCs we have used Ofwat's default formula to set the incentive rates.

Our approach to setting incentive rates was challenged by the CEF. Particularly the link to our societal valuations. The CEF concluded there was strong evidence that the body of customer engagement and research had been well used to calibrate the financial incentives.

Symmetric incentive rates

For PCC and External sewer flooding our proposed performance commitment level is beyond the level suggested by cost-benefit analysis. This means that the marginal cost of improvement at the PCL outweighs the marginal benefit of service improvements. This results in the standard formula implying an underperformance penalty rate of zero.

Following advice from Frontier Economics, we have set the underperformance penalty rate to match the outperformance incentive rate. The approach is pragmatic and delivers significant underperformance penalty rates. It implicitly captures an adjustment to the marginal cost and mechanically this approach implies that the incremental cost has been set equal to the incremental benefit at the performance commitment level.

Using a wide range of customer evidence to set incentive rates

We have undertaken an extensive and robust programme of societal valuations which provides information on the value that customers place on improving service for the majority of our PCs.

For our asset health PCs, we have sought to translate customer valuation of a closely associated service measure to the asset health performance commitment (for example translating the value customers place on reducing sewer flooding to the sewer collapses asset health PC). However, these links are indirect and have generally resulted in low incentive rates. The exception to this is reactive mains bursts where customer valuation results in a high incentive rate.

In other areas, such as non-household retailer satisfaction and supporting vulnerable customers, there was limited information from which to derive a valuation. For these performance commitments, we have triangulated with additional sources of customer evidence to set incentive rates. In the customer research we conducted on ODIs, we gathered data on the overall range of incentives supported by customers and their relative weighting of individual measures for financial incentives. We have proposed caps and collars on incentives based on this customer evidence. For measures where we do not have societal valuations, we have used this additional source of customer evidence to set incentive rates. To determine the rates, we have apportioned the incentives allocated by customers over the range of likely performance in the following manner:

- for out and underperformance ODIs, the range is from the P10 to the P90
- for underperformance only ODIs, the range is from the PCL/deadband to the P10
- for outperformance only ODIs, the range is from the PCL to the P90.

We have used this approach for:

- Compliance risk index and sub-measures
- Non-household retailer satisfaction
- Supporting customers in vulnerable circumstances (qualitative and quantitative)
- Treatment works compliance
- Sewer collapses
- Unplanned outages.

This approach provides higher incentive rates for asset health performance commitments than relying on extrapolating societal valuations and is in line with Ofwat's guidance on using a wide range of customer evidence to set incentive rates for asset health.

The calculation of the underperformance penalty payment incentive rates is shown in the following table.

Performance commitment	Performance range	Incentive allocated (£m)	Incentive rate (£m)
Unplanned outages	Deadband: 6.06 P10: 12.1 Range = 6.04	3.81 per year	0.63 per %
Sewer collapses	Deadband: 6.87 reducing to 6.74 over AMP7 P10: 9.1 Range = 11.3 over AMP7	26.0 over AMP7	2.298m collapse per 1,000km of sewer
Treatment works compliance	Deadband: 98.6 P10: 95 Range = 18	24.27 over AMP7	1.348m per %
CRI	Deadband: 3.56 P10: 9.5 Range = 29.7 (over AMP7)	23.4 over AMP7	0.788 per CRI score
Non-household retailer satisfaction	Deadband: 6 P10: 59.7 P100: 100 PCL: improving from 74.6-79.1 over AMP7 Range = 102.9 over three years (three years of incentives 2022/23 to 2024/25)	+/- 10.008 (three years of incentives 2022/23 to 2024/25)	0.097 per retailer satisfaction score index

Column 101: Outperformance payment incentive rates

We provide additional explanation of our approach to calculating incentive rates in our business plan and in our IAP response to action ANH.OC.A2.

For the majority of performance commitments we have used Ofwat's default formula to set the incentive rates.

Using a wide range of customer evidence to set incentive rates

We have undertaken an extensive and robust programme of societal valuations. This provides information on the value that customers place on improving service. We have triangulated some of our incentive rates with an additional source of customer evidence.

We have used this approach for outperformance payment incentives for 'Non-household retailer satisfaction and 'Supporting customers in vulnerable circumstances (qualitative and quantitative)'. The calculation of these outperformance payment incentive rates is shown below.

Performance commitment	Performance range	Incentive allocated (£m)	Incentive rate (£m)
Supporting customers in vulnerable circumstances (qualitative)	PCL: 38 increasing to 40 over AMP7 P90: 47 Range = 39 over AMP7	7.25 over AMP7	0.186 per panel score
Supporting customers in vulnerable circumstances (quantitative)	PCL: 1.8% increasing to 12.8% over AMP7 P90: 14.66% by end AMP7 Range = 9.22% over AMP7	7.25 over AMP7	0.786271 per %
Non-household retailer satisfaction	Deadband: 6 P10: 59.7 P100: 100 PCL: improving from 74.6-79.1 over AMP7 Range = 102.9 over three years (three years of incentives 2022/23 to 2024/25)	+/- 10.008 (three years of incentives 2022/23 to 2024/25)	0.097 per retailer satisfaction score index

Column 106: Standard ODI operand

Most of our financial PCs operate as standard.

For PCC we are proposing financial incentives in the final two years of AMP7. As such we have entered the value 2.5 into this column.

For Bathing waters attaining excellent status we are proposing an end of period ODI. Bathing water quality is measured on a four year average basis. To reflect this lag between actual improvements and reported performance we have entered the value 4 into this column.

Columns 132 to 149: P10 Underperformance penalties and P90 Outperformance payments

The table below shows our expected P10 and P90 for each PC. These are used to drive financial performance in columns 132 and 143. the associated levels of performance are shown in columns 138 and 149.

Performance commitment	P90	Rationale	P10	Rationale
Water supply interruptions	3:00	By end of AMP7, based on our expert judgement of possible improvements. We believe this represents the maximum level attainable in our context.	17:00	Worst performance in recent years (2014/15) is 19:00 but our investments and proactive approach mean we are less likely to outturn such a high level again
Leakage	146.2	End of AMP7, based on outperforming the WRMP	211	Our sustainable economic level of leakage
Per capita consumption	129.2	Based on the 'Aspirational' high option considered as part of the WRMP.	140	Based on current industry average
Internal sewer flooding	1.04	20% better than PCL by end of AMP7, through continuous improvement and innovation	2.5	Worst recent performance

Performance commitment	P90	Rationale	P10	Rationale
Pollution incidents	17	20% better than PCL by end of AMP7, through continuous improvement and innovation.	35	Industry lower quartile
Unplanned outages	n/a	Penalty Only	12.06%	Based on current industry average plus on standard deviation
Sewer collapses	n/a	Penalty Only	9.2	AMP6 Reference level proportioned up for all sewers
Treatment works compliance	n/a	Penalty Only	95%	Our judgement of possible poor performance, based on historic performance in the industry.
Percentage of population supplied by a single supply system	9.4%	Based on delivery of schemes planned for AMP8 as part of the WRMP during AMP7	24.7%	No improvement from end AMP6
Properties at risk of persistent low pressure	85	20% better than PCL by end of AMP7, through continuous improvement and innovation.	505	Our end of AMP5 performance
External sewer flooding	2,339	20% better than best ever by end of AMP7, through continuous improvement and innovation	5,351	Worst recent performance
Reactive mains bursts	n/a	n/a	5,268	Total number of mains bursts (2017/17)
Bathing waters attaining excellent status	41	Based on delivery of schemes and investments identified for AMP8, working with third parties and possible investment on third party assets during AMP7	28	Based on worst recent performance
Abstraction incentive mechanism	n/a	See table App3 commentary for individual abstraction site P90 and rationale	n/a	See table App3 commentary for individual abstraction site P10 and rationale
Supporting customers in vulnerable circumstances (qualitative)	47	Based on highest panel assessment score achieved by an energy company in the Ofgem vulnerability assessment	n/a	Reward Only
Supporting customers in vulnerable circumstances (quantitative)	20% of customers on the PSR	By end of AMP7, based on our estimate of the number of customers who may be in vulnerable circumstances at any one time	n/a	Reward Only
CRI: Water Treatment Works	n/a	Penalty Only	2.47	We have selected these figures based on our judgement of the effect of our largest historic CRI exceedences occurring at some of our largest works, reservoirs and zones.
CRI: Service Reservoirs	n/a	Penalty Only	0.3	We have selected these figures based on our judgement of the effect of our largest historic CRI exceedences occurring at some of our largest works, reservoirs and zones.
CRI: Water Supply Zones	n/a	Penalty Only	3.69	We have selected these figures based on our judgement of the effect of our largest historic CRI exceedences occurring at some of our largest works, reservoirs and zones.
Non-household Retailer Satisfaction	86	By end of AMP7, 35 NPS based on excellent performance in line with Marks and Spencer and Apple and 100% OPS and MPS.	59.7	Based on -27.5 for NPS (worst UK water company) and maintaining current performance for OPS (84%) and (MPS 78%)

Performance commitment	P90	Rationale	P10	Rationale
Water Industry National Environment Programme	241	Obligations above PCL each year, representing outperformance up to the incentive cap	n/a	Reward Only
Water quality contacts	0.89	Based on improvements resulting from additional investment, not currently included within the business plan.	1.86	Significant underperformance based on industry average in 2013

Column 144: Marginal cost

We provide additional explanation of our approach to calculating marginal costs in our business plan and in our IAP response to action ANH.OC.A2.

Our PR19 investments are managed within our investment optimisation and delivery planning tool, C55. This allows us to optimise our Plan to deliver the greatest benefits to customers. We have used our full range of candidate investments to derive our marginal costs. These candidate investments have been robustly scoped and costed as part the development of this Plan. This means our cost curves draw on the greatest range of sources, not just investments selected as part of our final plan.

For each relevant performance commitment, we have collated cost data from C55 to determine individual programs of investments and the associated incremental improvement in performance. Investments were prioritised on a cost to benefit basis creating curves with the least cost investments at the start.

We define common costs as those associated with potential investments that deliver a benefit for more than one performance commitment. For example sewer maintenance can reduce both the potential number of pollution incidents and flooding events. C55 allows us to identify investments that benefit multiple performance commitments. These common costs have been apportioned based on the societal value that these investments deliver to each performance commitment.

For all of the costs used to derive our marginal cost we have used our efficient costs, i.e. post continuing productivity and affordability challenge assumptions.

Our approach to determining marginal costs was reviewed by Frontier Economics. Their report is provided as annex '13b Review of cost curves'.

We have provided our marginal cost estimate for PCs that are financial and where a marginal cost is required to set the incentive rate. The marginal costs are provided on a £ per unit per household basis.

For water quality contacts our proposed performance commitment level is the same as our forecast for the end of AMP6. As such we have included zero marginal cost in this column.

Columns 145 to 154: Marginal benefits valuation methods

Our marginal benefits are derived from our extensive programme of societal valuations. We provide additional explanation of our approach to calculating marginal benefits in our business plan and in our IAP response to action ANH.OC.A2.

Our PR19 societal valuation programme played a key role in developing our insights into customers' priorities as part of the wider customer engagement programme. This builds on our leading approaches from both PR09 and PR14 as recognised in both peer review and the PR14 Risk Based Review. For PR19 we have gone even further. Over the last two years, the societal valuation programme has undertaken extensive and innovative work to measure and understand customer preferences through estimating the economic values that customers place on improving and maintaining different aspects of water and wastewater services. These values informed the investment planning appraisal process for PR19, the WRMP and provided evidence to support the development of ODIs. Full detail of our societal valuation programme is provided in chapter 12, Customer Engagement and supporting annexes of our Plan.

Our work has focused on:

- use of multiple valuation sources and innovation in new methods. A number of studies in the societal valuation programme have applied innovative valuation approaches, including our groundbreaking sewer flooding and traffic disruption wellbeing study (see annex '12f Valuation of the impact of roadworks and flooding using the Wellbeing Valuation method'.)
- improvements in use and application of stated preference studies, including simplifying the presentation of service levels and attributes.
- Improvements to triangulation: This builds on our approach in PR14 and makes it more transparent and robust. The approach developed is closely aligned to the steps for triangulation recommended in the report to CCWater.[1]

We have taken advice from ICS on the application of societal valuations to ODIs. ICS peer reviewed our final application of societal valuation to our ODIs. ICS' report can be seen as annex '13c PC marginal benefit mapping'.

We received advice from ICS Consulting on our translation of the values from this work for use in our ODIs. They also provided peer review of our calculations of the marginal benefit of service improvements. Their report is provided as annex '13c PC marginal benefit mapping'.

As per Ofwat query response 617, we have reported household only values under marginal benefit valuation method 1 (columns 145 to 149). These values are reported on a household basis.

We believe that combined household and non-household values give the greatest reflection of the benefit to customers of service improvements. As such we have used combined values when setting our ODIs and have reported these combined values under marginal benefit valuation method 2 (columns 150 to 154). These values are reported on the basis of household and non-household customer numbers.

1 Defining and applying triangulation in the water sector, ICF, report for Consumer Council for Water, July 2017

APP1A - OUTCOME DELIVERY INCENTIVE (ODI) - ADDITIONAL INFORMATION

We have not entered data for C-MeX and D-MeX.

As the AIM is made up of a number of sites with different incentives rates, we have not completed the table for this performance commitment. Our approach to calculating our incentive rates is explained in the commentary for table App3. Table App3 has not changed from our September 2018 business plan.

Column 14: Triangulated WTP / Marginal benefits estimate

The values entered in this column are the same as those in Table App1, Column 162. We believe that combined household and non-household values give the greatest reflection of the benefit to customers of service improvements. As such we have used combined total valuations when setting our ODIs.

Our marginal benefits are derived from our extensive programme of societal valuations. We provide further detail on the formulation of our marginal benefits in our commentary for table App1, under the column with the heading 'Marginal benefits valuation methods' and in our IAP response to action ANH.OC.A2.

It is worth noting that for CRI, we attempted to derive a valuation based on boil water notices and the link between these notices and our recent CRI performance. Our calculation of the marginal benefit of improvement resulted in a valuation so low that it is represented as 0 to six decimal places. Our calculation of this valuation was peer reviewed by ICS.

Column 15: Marginal cost

The values entered in this column are based on the same marginal cost as entered in Table App1, Column 154. However in this table the cost has been divided by the number household customers as opposed to the total number of customers. We have provided our marginal cost estimate for PCs that are financial and where a marginal cost is required to set the incentive rate.

Our approach to determining the formulation of our marginal benefits in out commentary for table App1, under the column with the heading 'Marginal cost'. We have also provided additional detail for certain measures in response to Ofwat IAP actions.

We have not estimated marginal cost for CRI. As an evolving metric, influenced by inspector judgement, understanding marginal cost per unit of improved performance is challenging and unlikely to result in accurate data.

Column 16: Number of households

The number of customers used to calculate incentive rates are show in the table below. This is based on the forecast number of household customers in 2020/21 which was available when our rates were calculated.

Water	Wastewater
2,112,549	2,634,447

Column 17: Totex sharing rate (customer share)

We have used the default sharing rate of 50% for all ODIs.

Column 18: Type of ODI rate formula

Option selected on basis of formula used to calculate incentives. Where we have used an alternative approach this is explained under column 19.

Column 19: Reason for using alternative formula

For our asset health PCs CRI, sewer collapses, treatment works compliance, we have sought to translate customer valuation of a closely associated service measure to the asset health performance commitment (for example translating the value customers place on reducing sewer flooding to the sewer collapses asset health PC). However, these links are indirect and have generally resulted in low incentive rates. Our approach to this mapping was reviewed by ICS consultants (see Annex13c PC marginal benefit mapping of our business plan submission). In consequence we proposed increased levels of underperformance incentive rates for these measures to ensure credible incentive rates.

For unplanned outages, being a new performance commitment with an evolving definition, there was limited good cost and benefit information to use to set an incentive rate using the standard formula.

For reactive mains bursts, PCC and External Sewer Flooding our proposed performance commitment level is beyond the level suggested by cost-benefit analysis. This means that the marginal cost of improvement at the PCL outweighs the marginal benefit of service improvements. This results in the standard formula implying an underperformance penalty rate of zero or lower than the reward rate.

Following advice from Frontier Economics, we have set the underperformance penalty rate to match the outperformance incentive rate. The approach is pragmatic and delivers significant underperformance penalty rates. It implicitly captures an adjustment to the marginal cost and mechanically this approach implies that the incremental cost has been set equal to the incremental benefit at the performance commitment level. Adopting the outperformance rate increases the level of underperformance incentive rates for these measures to ensure credible incentive rates.

Column 20: Alternative formulae

For the majority of PCs we have used Ofwat's default formula to set the incentive rates.

Our approach to setting incentive rates was challenged by the CEF. Particularly the link to our societal valuations. The CEF concluded there was strong evidence that the body of customer engagement and research had been well used to calibrate the financial incentives.

Symmetric incentive rates

For PCC and External sewer flooding our proposed performance commitment level is beyond the level suggested by cost-benefit analysis. This means that the marginal cost of improvement at the PCL outweighs the marginal benefit of service improvements. This results in the standard formula implying an underperformance penalty rate of zero.

Following advice from Frontier Economics, we have set the underperformance penalty rate to match the outperformance incentive rate. The approach is pragmatic and delivers significant underperformance penalty rates. It implicitly captures an adjustment to the marginal cost and mechanically this approach implies that the incremental cost has been set equal to the incremental benefit at the performance commitment level.

Using a wide range of customer evidence to set incentive rates

We have undertaken an extensive and robust programme of societal valuations which provides information on the value that customers place on improving service for the majority of our PCs.

For our asset health PCs, we have sought to translate customer valuation of a closely associated service measure to the asset health performance commitment (for example translating the value customers place on reducing sewer flooding to the sewer collapses asset health PC). However, these links are indirect and have generally resulted in low incentive rates. The exception to this is reactive mains bursts where customer valuation results in a high incentive rate.

In other areas, such as non-household retailer satisfaction and supporting vulnerable customers, there was limited information from which to derive a valuation. For these performance commitments, we have triangulated with additional sources of customer evidence to set incentive

rates. In the customer research we conducted on ODIs, we gathered data on the overall range of incentives supported by customers and their relative weighting of individual measures for financial incentives. We have proposed caps and collars on incentives based on this customer evidence. For measures where we do not have societal valuations, we have used this additional source of customer evidence to set incentive rates. To determine the rates, we have apportioned the incentives allocated by customers over the range of likely performance in the following manner:

- for out and underperformance ODIs, the range is from the P10 to the P90
- for underperformance only ODIs, the range is from the PCL/deadband to the P10
- for outperformance only ODIs, the range is from the PCL to the P90.

We have used this approach for:

- Compliance risk index
- Non-household retailer satisfaction
- Supporting customers in vulnerable circumstances (qualitative and quantitative)
- Treatment works compliance
- Sewer collapses
- Unplanned outages.

This approach provides higher incentive rates for asset health performance commitments than relying on extrapolating societal valuations and is in line with Ofwat's guidance on using a wide range of customer evidence to set incentive rates for asset health.

The calculation of the underperformance penalty payment incentive rates is shown in the following table.

Performance commitment	Performance range	Incentive allocated (£m)	Incentive rate (£m)
Unplanned outages	Deadband: 6.06 P10: 12.1 Range = 6.04	-3.81 per year	0.63 per %
Sewer collapses	Deadband: 6.87 reducing to 6.74 over AMP7 P10: 9.1 Range = 11.3 over AMP7	-26.0 over AMP7	2.298m collapse per 1,000km of sewer
Treatment works compliance	Deadband: 98.6 P10: 95 Range = 18	-24.27 over AMP7	1.348m per %
CRI	Deadband: 3.56 P10: 9.5 Range = 29.7 (over AMP7)	-23.4 over AMP7	0.788 per CRI score
Non-household retailer satisfaction	Deadband: 6 P10: 59.7 P100: 100 PCL: improving from 74.6-79.1 over AMP7 Range = 102.9 over three years (three years of incentives 2022/23 to 2024/25)	+/- 10.008 (three years of incentives 2022/23 to 2024/25)	0.097 per retailer satisfaction score index

Column 21 – Chosen underperformance penalty incentive rate

As entered in table App1.

Column 23 – Reasons for any difference between columns 21 and 22

Reasons highlighted in the table itself.

For reactive mains bursts, PCC and External Sewer Flooding this is due to penalty rates being 0 or too low by following the default formula. For these measures we have set the underperformance rate to be the same as the outperformance rate as described in the commentary for column 19 above.

For CRI and its sub-measures, Sewer Collapses and Treatment Works Compliance we have used the approach described in the commentary for columns 19 and 20.

For Internal Sewer Flooding, we believe this discrepancy may be due to our calculating incentive rates on the basis of marginal costs and benefits rather than marginal cost and benefits per customers. Rounding from the limit on decimal points in table App1 may also attribute.

Column 24 – Reasons for any difference between ODI rate in this table and table App1

There are no discrepancies between column 21 and table App1. Any discrepancies between column 22 and table App1 are described in column 23.

Column 25 – Type of ODI rate formula

For the majority of performance commitments we have used Ofwat's default formula to set the incentive rates.

Options selected on basis of formula used to calculate incentives. Where we have used an alternative approach this is explained under column 26.

Column 26 and 27 – Reason for using alternative formula, Alternative formulae

For the majority of performance commitments we have used Ofwat's default formula to set the incentive rates.

Using a wide range of customer evidence to set incentive rates

We have undertaken an extensive and robust programme of societal valuations. This provides information on the value that customers place on improving service. We have triangulated some of our incentive rates with an additional source of customer evidence.

We have used this approach for outperformance payment incentives for 'Non-household retailer satisfaction and 'Supporting customers in vulnerable circumstances (qualitative and quantitative)'. The calculation of these outperformance payment incentive rates is shown below.

Performance commitment	Performance range	Incentive allocated (£m)	Incentive rate (£m)
Supporting customers in vulnerable circumstances (qualitative)	PCL: 38 increasing to 40 over AMP7 P90: 47 Range = 39 over AMP7	7.25 over AMP7	0.186 per panel score
Supporting customers in vulnerable circumstances (quantitative)	PCL: 1.8% increasing to 12.8% over AMP7 P90: 14.66% by end AMP7 Range = 9.22% over AMP7	7.25 over AMP7	0.786271 per %
Non-household retailer satisfaction	Deadband: 6 P10: 59.7 P100: 100 PCL: improving from 74.6-79.1 over AMP7	+/- 10.008 (three years of incentives 2022/23 to 2024/25)	0.097 per retailer satisfaction score index

Performance commitment	Performance range	Incentive allocated (£m)	Incentive rate (£m)
	Range = 102.9 over three years (three years of incentives 2022/23 to 2024/25)		

Column 28: Chosen outperformance payment rate

As entered in table App1.

Column 30: Reasons for any difference between columns 28 and 29

Reasons highlighted in the table itself. For WINEP we believe this discrepancy may be due to our calculating incentive rates on the basis of marginal costs and benefits rather than marginal cost and benefits per customers. Rounding from the limit on decimal points in table App1 may also attribute

APP1B - PC AND ODI SUPPLEMENTAL MEASUREMENT INFORMATION

We have followed the guidance that Ofwat has produced for table 1b and have only entered additional information alongside the subset of our performance commitments for which standard definitions and measurement units have been defined. This is relevant to 18 of our performance commitments. Of these 18 there are 3 that differ from the units presented in table App1, these are:

- Interruptions to supply
- External Flooding
- Customers on the Priority Services Register

N.B. While our performance commitment on Water Quality Contacts does not appear on the prescribed list, we have included it in this table as it is the standard measure used by DWI and on Discover Water before it is split into two of the prescribed measures. This should allow Ofwat to carry out a comparison between our measure and those of others.

Summary of changes

Interruptions to Supply

We have converted the figures in table App1 into the HH:MM:SS format that is required. This means that the excel sheet provided will treat the figures provided as if they were reported as decimal days. For this reason we have also converted the incentive rate into £m per day to align with the calculations that are performed in App1.

External Flooding

We have converted all the figures in this line from the number of external sewer flooding incidents to the number of external sewer flooding incidents per 10,000 sewer connections using the number of residential properties connected from 2020-21 reported in Table WWS3 Line 5 of our Business Plan tables.

Customers on the Priority Services Register

We have converted our proposed performance commitment into the units proposed by Ofwat in the new common performance commitment for vulnerable customers.

APP2 – LEAKAGE ADDITIONAL INFORMATION AND OLD DEFINITION REPORTING

SECTIONS A AND B – LEAKAGE REPORTING

Lines 2 to 4 and 38 to 39: Sustainable Economic Level of Leakage (SELL)

Historic SELL evaluation

- At PR04, we carried out a comprehensive Economic Level of Leakage (ELL) exercise which derived a central point value for the SELL target at 211 Ml/d (rounded). This value was agreed by Ofwat at this time
- In 2007, and as required by the Ofwat reporting guidelines at that time, we carried out an exercise to review and update the SELL target. This process reviewed the previously submitted PR04 methodology using improved and more recent data. This indicated that in accordance with the new guidance and data no significant change in the SELL was required
- The update to the SELL was audited by SMC (the reporter) and the results were agreed with Ofwat
- A further SELL review and report was conducted in 2009, which again set the SELL value at 211 Ml/d. This was again agreed with Ofwat in September 2009
- During the PR14 and Water Resources Management Plan (WRMP14) process and in consideration of customer views, we opted to reduce leakage as part of the demand management option package by 16% below the SELL level 211 Ml/d. This was subsequently codified as part of our current specific Outcome Delivery Incentive (ODI) methodology (172 Ml/d target (177 Ml/d three year rolling average)).

Line 5: WRMP leakage targets

Baseline leakage values have been derived from outturn data, for each leakage element for 2017/18.

For the years 2018/19 and 2019/20, AMP6 projected outturn values have been used.

For the years after 2020/21, the WRMP demand forecast leakage estimates have been used.

The demand forecast estimates leakage over the planning period.

This includes forecasts for each element of leakage:

- Distribution losses
- Measured household customer supply pipe leakage (cspl)
- Unmeasured household customer supply pipe leakage (metered) (cspl)
- Unmeasured household customer supply pipe leakage (unmetered) (cspl)
- Measured non-household customer supply pipe leakage (metered) (cspl)
- Unmeasured non-household customer supply pipe leakage (metered) (cspl)
- Household void customer supply pipe leakage (cspl).

For the forecast period, the effect of demand management options has been quantified and deducted from the baseline forecast.

The demand management options have been evaluated for their effects on leakage distribution losses and customer supply pipe leakage.

These include leakage reduction from additional interventions to reduce distribution losses, customer supply pipe leakage and also as a result of the introduction of smart metering.

Currently the differential in leakage values calculated using the old and new methodologies is not reflected in the one decimal place figures reported (current difference 0.02 Ml/d).

Line 6: Leakage/property/day

This is the reported value of leakage per property (litres / property / day) and has been derived using the outturn leakage value and WRMP forecast of leakage (including the effect of leakage demand management options) and WRMP forecast for the total number of properties in the our water supply region.

Line 7: Leakage/km of main/day

This line reports the leakage per km of main per day (litres / km / day) has been calculated using the outturn value and WRMP forecast for leakage distribution losses and the outturn and forecast for 'Total length of potable mains' (table Wn2, line 1).

Line 8: Total connected properties at year end

As per the updated data tables issued by Ofwat in January 2019, we have completed line 8. This data is copied from table WS3, line 8.

Line 9: Total length of potable mains as at 31 March

As per the updated data tables issued by Ofwat in January 2019, we have completed line 9. This data is copied from table Wn2, line 1.

SECTION C – PER CAPITA CONSUMPTION (OLD DEFINITION)

Line 49: Per Capita Consumption

Outturn Per Capita Consumption (PCC) has been derived from reported values. Forecast values have been derived from the WRMP.

PCC has been derived using a population and initial PCC value to drive a cohort, year on year based model.

PCC is influenced by customer segmentation (measured / unmeasured / switcher) and how this changes over time, in addition to the effects of demand management options (water efficiency and smart metering).

- It is noted that despite a recent slight increase in outturn PCC values (to 136.7 ltr/person/day for 2017/18), the forecast methodology and assumptions still determine that PCC values should decline, once switching and baseline water efficiency measures have been taken into account
- The final year of AMP6 forecast value returns to a similar value to the AMP6 average of 135.8 ltr/person/day
- Post 2020 WRMP PCC values reflect the increasing impact of water efficiency and smart metering demand management options.

For consumption, base-year measured/unmeasured consumption is derived from the water-balance PCC and populations, such that:

Switcher consumption is assumed to be:

- Pre-switch (deducted from unmeasured) = Previous year (unmeasured PCC x population)
- Post-switch (added to measured consumption) = Previous year (unmeasured PCC x 85%) x population).

Unmeasured consumption is, therefore assumed to decrease by 100% of the switcher consumption and measured consumption to increase by 85% of the switcher consumption (that is, a 15% saving).

New-build consumption is assumed to be equivalent to the measured consumption for the Water Resource Zone (WRZ) for that year.

Thus forecast household consumption is calculated as:

> Measured Consumption = (Current Year measured population x Previous Year measured PCC (inc Business as Ususal Water Efficiency (BUSWE)) + (New-build population x Previous Year measured PCC (inc. BUSWE)) + (Switcher population x (Unmeasured PCC x 85%)); see below.

Measured Consumption:

Con (meas) = [Pop(meas-current year) x PCC(prev - meas)] + [Pop(new-build) x PCC(prev - meas)]+ [Pop(switcher) x (PCC(unmeasured) x 85%)]

And unmeasured consumption is calculated:

Unmeasured Consumption = (Current year unmeasured population x Previous year unmeasured PCC) – (Switcher population x previous year Unmeasured PCC)

Unmeasured Consumption:

Con(unmeas) = [Pop(unmeas-current year) x PCC(prev - unmeas)]- [Pop(switcher) x (PCC(unmeasured) x 100%)]

Leakage overview (WRMP derivation)

In 2007 Ofwat published its final report on 'Alternative approaches to leakage target setting' and following subsequent consultations this guidance was issued for PR09, including contemporary 'best practice'. Since this time Ofwat has continued to encourage additional studies, in cooperation with water companies, and the industry research group UK Water Industry Research (UKWIR), and has produced reports directed towards more consistency in leakage management accounting practices. In this regard, our Optimised Networks Strategy (ONS) has made a significant contribution, as described in the 2015 EU reference document.

Most recently we and other water companies have been working together, co-ordinated by WaterUK and supported by Ofwat, to develop more consistent leakage reporting methodologies.

We have reported consistently low levels of leakage for many years. Recently (2016/17) the calculated leakage has been increased by changes made to the leakage calculations to conform with the latest regulatory guidance (averaging of whole months' data rather than weekday data) and new rules on adjusting for metering failures. Increased levels of confidence in night-flow records are expected to follow from progressive increase in the size of the domestic consumption monitor, supported by data from smart meter trials in Newmarket and Norwich.

The company changed its procurement of maintenance activities for AMP6 and now has a joint operating company with contractors (Integrated Maintenance and Repair Alliance) which is incentivised on outputs which support improved KPI and ODI rewards.

Leakage management has also been restructured to give operational teams more ownership of leakage management targets, and a larger operational team generates reports, develops strategies and manages budgets to reduce leakage.

This process can be characterised:

- District Metered Area (DMA) categorisation
- Field teams within the leakage unit undertake basic DMA checks on customer locations and metering equipment
- Intensive leak detection using step test trackers, high accuracy meters and possibly restoration, tankers. We reported that the teams have found 3 Ml/d leakage per year since being established including significant 'silent' leakage
- Scheme designs (Pressure Reducing Valve (PRV), new mains and customer-side leakage)
- Construction
- Tracking of benefits.

Leakage baseline forecast

Leakage of water from the water distribution network is a significant component of demand.

The demand forecast estimates leakage over the planning period. This includes forecasts for:

- Distribution losses
- Measured household customer supply pipe leakage (cspl)
- Unmeasured household customer supply pipe leakage (metered) (cspl)
- Unmeasured household customer supply pipe leakage (unmetered) (cspl)

- Measured non-household customer supply pipe leakage (metered) (cspl)
- Unmeasured non-household customer supply pipe leakage (metered) (cspl)
- Household void customer supply pipe leakage (cspl).

Base year leakage for all these elements have been derived from the current reported actual leakage (rolling average of the previous three years) as reported in the water balance data.

Existing policies and the impacts of any planned non-supply demand balance actions that may reduce leakage have been included in the leakage forecast.

The baseline leakage over the planning period has been set at 177 Ml/d (three year rolling average). This value (177 Ml/d) has been based upon the pre-2017 methodology.

With regard to the UKWIR 'Consistency of reporting performance measures' (2017), the level of leakage and the distribution of leakage between WRZs using the revised method had not been defined when the analysis of leakage reduction options had been undertaken. Re-applying the consistent methodology at planning level would have led to both differences in leakage levels in the resource zones and differences in the proportional distribution of leakage between resources zones. This would also have required a new set of water balances at planning zone level, and time was not available to make these changes. In these circumstances the assessed leakage reductions have been retained even while the baseline leakage level has been changed.

It is noted that the adjustment to reported leakage as a result of the 'Consistency of Reporting' changes will be approximately +2 Ml/d in year 2016/17 and 0.02 Ml/d in the year 2017/18 (the 'consistent' method gives slightly higher leakage value).

New WRZ and planning zone level water balances will potentially be available, using the 'Consistency of Reporting' method for leakage, for the WRMP. If they produce a significant change then new leakage reduction options could be derived for this new WRZ level baseline.

The revised consistent base year leakage reallocates water between leakage and demand. The effects of options have been assessed using the current (pre-2017 method) leakage and demand. The effect of these options on distribution input should be only negligibly affected by the reallocation. It would not be useful to try to re-assess the effect of options with the new calculation method, because the options themselves have been developed using the assumptions and methods that underpin the old calculation method. However, we do not consider the change to be significant enough to require a complete reassessment of the leakage demand management options.

In order to meet government aspirations of reducing leakage by a further 15% by the end of AMP7, we have set a challenging baseline target (177 Ml/d) and included further demand management options in the preferred final plan, intended to reduce overall leakage to 142 Ml/d (22% reduction from 2017/18) by 2024/25 (end AMP7) and to 107 Ml/d (40% reduction) by the end of the WRMP planning period. Once the 'Consistency of Reporting' changes have been included, the difference as currently assessed should not impact the 15% reduction.

All feasible options for further leakage control have been assessed, along with other options which are actively being investigated; these and customers views are discussed in the 'Demand Management Strategy' supporting document to our WRMP.

Base year and forecast outputs

- Total leakage for the base year (2017/18) was 182.7 Ml/d as shown in line 31
- Approximately 13% of the water we put into supply is lost through leakage from our distribution system (139 Ml/d - 2017/18)
- A further 4% of the water we put into supply are attributed to customers' supply pipe leakage (43 Ml/d – 2017/18)
- For the WRMP planning period the baseline leakage level has been set to be maintained at a constant value of 177 Ml/d (three year average)
- We have made significant efforts to reduce leakage and are now below the previously derived sustainable economic level of leakage (SELL) – 211 Ml/d.

Forecast WRMP Per Capita Consumptions assumptions

As described all baseline values for the measured / unmeasured properties, population, occupancy, and per capita consumption have been aligned with water balance data at WRZ level.

Additionally it has been assumed that:

- The optant / switcher occupancy has been calculated as the average of the yearly value for unmeasured occupancy and WRZ average occupancy (as it has been assumed that the optants / switchers will form a slightly different cohort to the 'standard' unmeasured population, with lower than average unmeasured consumption and demographic characteristics, either being a driver for opting / switching, or reflecting the nature of customers who are optants upon 'moving in')
- New build properties for the forecast period have all been assumed to be metered and measured, as they are added to the total number of properties per year. Additional population per year has been adjusted to reflect the overall changes in average occupancys for the WRZ per year, in order to reflect declining occupancy rates and changes due to birth rates, death rates and migration. Thus, additional population has not been calculated as 'new properties' x 'occupancy' as this would not account for the other demographic changes
- It has been assumed that as customers switch their consumption reduces to reflect their new status (or reflect their demography in the case of optants who choose to be measured upon 'moving in'); this reduction has been assumed to be 15% of the pre-switch, unmeasured, consumption value for the particular WRZ
- Within the model, switcher consumption is not conserved. Consequently, as the switcher consumption is recalculated from 'pre-switch' to 'post-switch' (i.e. Average unmeasured consumption - 15%), the 15% reduction is removed from the overall household demand total. This reduction has been assumed, in alignment with the findings of other water companies who have reported savings of 16.5% and 17%
- It is also assumed that measured household consumption will be reduced by the effect of 'Business As Usual Water Efficiency Measures' (BUSWE). We have determined that this can be assumed to be equivalent to a saving of 0.3 l/prop/d on average, giving an approximate saving of 0.1 l/p/d, per year over the 25 year period. This tends to counteract the slight increase in PCC over the period, as higher than average consumption values are transferred with unmeasured switchers. Even including the 15% saving, as unmeasured customers become measured, because their PCCs can be significantly higher than the average measured PCC, and they still transfer a higher than average volume per person, raising the overall average PCC.

SECTION D – PR14 MEASUREMENT OF SUPPLY INTERRUPTIONS (OLD DEFINITION)

Line 50: Water supply interruptions

The total number of properties is determined as any group of properties affected by interruptions equal to or greater than 3 hours in duration. For each group is the amount of time without water is recorded; this contributes to the total score for each year.

In 2017/18 the total time lost due to interruptions >= 3 hours per property was 7 minutes 24 seconds (11 minutes 43 seconds in 2016/17).

Forecast data

Based on our forecast of industry upper quartile performance in AMP7, our approach is explained in detail in the main business plan narrative.

SECTION E – PR14 MEASUREMENT OF INTERNAL SEWER FLOODING INCIDENTS (OLD DEFINITION)

Line 51: Properties flooded internally from sewers

Our current AMP6 internal flooding measure is a three-year average reduction. For the purpose of App2 we are using yearly figures as opposed to the three-year average so that it is more comparable with the new consistent definition for AMP7.

To populate the forecast figures for 2020-2025, we compared the shadow measure performance against the old measure actuals and created a conversation factor. By multiplying the conversion factor against the shadow measure, we were able to create a new forecast which reflects our AMP7 Performance Commitments.

APP3 – ABSTRACTION INCENTIVE MECHANISM – SURFACE AND GROUND WATER ABSTRACTIONS UNDER THE AIM THRESHOLD

Our supply area is geographically large with a significant rural population and experiences some of the lowest rainfall in the country. The Environment Agency (EA) has assessed the region as being in 'serious water stress' and, in addition, it is recognised as being particularly vulnerable to the impacts of climate change. The region is characterised by a high number of water–dependent designated conservation sites and we work closely with the EA to manage the associated environmental pressures. Our region's slow moving rivers are often ecologically diverse and, while they can support abstraction, this may cause environmental stress during periods of low rainfall.

Since privatisation, and as a result of the outcome of extensive environmental assessments, we have made significant investment to help understand and minimise the impacts of our abstractions. As a result, we have reduced output from, relocated or closed a number of our abstraction sources. We have also completed a wide range of environmental mitigation measures, the most notable of which was the creation of the 30 hectare wildlife lagoons at Rutland Water. We are completing a number of river restoration schemes during AMP6 to mitigate any potential abstraction impacts and have identified a further programme of river habitat improvements in AMP7.

During AMP5, two Anglian Water surface water abstraction sources on the River Wensum and the River Nar were identified with the EA for sustainability changes to address potential impacts to the river immediately downstream from our abstraction point. At both, we have agreed to upfront licence changes which will reduce the permitted hands-off flow / minimum residual flow requirements within specified time periods. These licence changes were not made immediately due to the need for significant capital investment in order to maintain public water supplies. In the meantime we are managing abstraction rates in order to minimise any ongoing environmental impact.

We are reporting on both these sites for the Abstraction Incentive Mechanism (AIM): Marham (River Nar) and Costessey (River Wensum) in AMP6.

Marham (River Nar)

The hands-off flow requirement in the Marham abstraction licence for the River Nar is due to increase from April 2025. This will result in a large sustainability change for the Marham source, and any alterations to our current abstraction regime in this resource zone will require significant investment. We have assessed the impacts in our Draft Water Resources Management Plan 2019 (WRMP) and have included a new transfer option for delivery by 2025. We also agreed with the EA and Natural England (NE) to implement interim river restoration and enhancement measures for the River Nar during AMP6.

The option to manage the demand from alternate abstraction sources is limited primarily to use of the Wellington Wellfield groundwater source. Use of the Wellington Wellfield is the identified drought contingency measure for the Marham source and is constrained by the annual abstraction licence limit.

Abstraction from the Marham surface water source during 2017/18 has shown a steady decrease over the reporting period.

Costessey (River Wensum)

The minimum residual flow requirement in the Costessey abstraction licence for the River Wensum is due to increase from April 2019. The licence changes result in a significant sustainability reduction of 46 Ml/d which is being addressed through an AMP6 investment scheme to enhance the treatment at the downstream Heigham surface water source. The scheme will complete by March 2019. We

agreed with the EA and NE to progressively reduce abstraction from Costessey and to re-instate the Heigham intake which is located outside of the River Wensum Special Area of Conservation. Since 2011 abstraction at Costessey has reduced by a third.

We will continue to manage the demand from the River Wensum through use of the Heigham intake as much as possible, without compromising public water supply as a result of poor water quality.

During the 2017/18 reporting period there were 27 occasions when flows in the Wensum dropped below the Q95 threshold (the lowest 5% of flows normally experienced in the river).

Column 1: PC unique ID

Costessey (River Wensum) does not have a PC unique ID assigned to it because this site will not operate under the AIM in AMP7.

Columns 2 to 4: Site selection for AIM after March 2020

We have not made any changes to our site selection procedure since we submitted our definitions submission to Ofwat on 3 May 2018. As described in the business Plan, we have identified these sites in liaison with the EA.

We have reported the impacted waterbody in the column "Water body type" (column 3), rather than the source of the abstraction.

Schemes to provide a permanent solution to these impacts will be implemented at the end of AMP7 at the earliest. Whilst this work is being carried out, we intend to monitor these sources to ensure that the potential environmental impact of abstraction there improves against historic levels.

The permanent solution for the Marham sources is due by March 2025, so no AIM volumes will be reported from this time onwards.

Columns 6 to 8: Setting of AIM triggers for all sites

The AIM is designed to target abstractions during low flow periods. In order to determine when these low flow periods occur, we analysed the measured flows for the baseline period (2007 to 2013) to determine the Q95 threshold (the lowest 5% of flows normally experienced in the river) for the impacted waterbody. This is the trigger threshold for all sites, with the exception of Wilsthorpe. As the River Glen is naturally ephemeral, it is normally dry at Q95 and for this site we set the threshold to Q72, so that it was above zero. These Q95 and Q72 flows inform columns 7 and 8.

We have used this period to set the baselines as it reflects a mix of wet and dry years, so the baseline reflects a typical abstraction patterns at the selected sources.

For the baseline period we analysed abstraction from our sources during the low flow periods. The average abstraction on these days informs column 6.

The units entered in column 7 are m3/s. We have used these units for consistency with the EA's gauge data.

We have entered a trigger threshold for each site in column 8. For Wilsthorpe and Wixoe the values entered are 0.003 and 0.004 respectively. These values show as 0.0 in the table due to the cell formatting.

Columns 9, 13, 14 and 18: AIM after March 2018

App3 includes fields for the prediction of AIM performance for the rest of the AMP period to March 2020. Until the schemes to provide a permanent solution to the potential impacts from abstraction are complete at the two AIM sites, we do not have sources that can be relied upon as alternative supplies.

The Marham sources require the Wellington Wellfield boreholes to supplement supply during low flow periods. The primary use of the groundwater source at Wellington is for the management of poor water quality at our Stoke Ferry surface water source, and it is constrained by an annual licence limit. This applies to both the Marham surface water source currently reported and also the Marham groundwater source, which we will be reporting from 2018/19.

The permanent solution for the Costessey source is due to be completed by March 2019, so no AIM volumes will be reported for this source from this time onwards.

From 2018/19 we will also be reporting on Wilsthorpe and Wixoe sources, which are included in the WINEP programme. It will take time to introduce the infrastructure required to achieve permanent solutions for these sites, and this has been incorporated into our WRMP.

The permanent solution for Wixoe is the relocation of the source by the end of AMP7. Prior to the permanent solution, it is possible to supplement supplies to the Haverhill area from an alternative source at Kedington. However, this source is already heavily committed in the same supply zone so the assistance it can provide is likely to be limited.

Where forecasts have been required for 2018/19 and 2019/20 we have entered a figure of zero megalitres. This reflects our ambition to not increase the impact of our abstractions on the environment compared to our baselines.

It is planned to reduce the annual licensed quantity for the Wilsthorpe source by 2024. Prior to the permanent solution, it is possible to supplement the Wilsthorpe area from our source at Etton, but this is likely to be constrained by our obligations under the Water Framework Directive.

To protect customers from the effect of two outperformance payments being received for the same site through the AIM and WINEP ODIs, once the relevant WINEP obligation is delivered the AIM site associated with that obligation would no longer qualify under the AIM.

Columns 19 to 21: Setting of AIM triggers for all sites for 2020-25

For consistency we have used the same criteria for setting AIM triggers for the next AMP (2020-2025) as we have for AMP6. Any progress will be marked against the baseline set in 2007-2013.

Performance Commitment Design

Columns 22 and 27: Setting 2020-25 PC Levels (Ml)

We have set our Performance Commitment (PC) levels at zero unless historic performance suggests that we have been able to exceed this regularly. This ensures that we are incentivised to reduce historic levels of abstraction and that any external effects such as weather will be averaged out over time. Further detail on our approach to setting performance commitment levels, deadbands and customer views on these is provided in the performance commitments chapter of the business Plan.

Columns 28 and 33: Setting normalized 2020-25 PC Levels (%)

As our predicted AIM performance was taken from the average performance over 10 years (2007/08 to 2017/18), we have used the same data for the normalised performance (average number of days above the AIM trigger in the period).

We do not propose to measure our PC against the normalised performance. We have provided these forecasts for completeness.

Columns 34 and 39: Longer term projections (Ml)

We have assumed that our long term performance will remain constant to reflect the uncertainty of forecasting future conditions where multiple variables are involved.

Columns 40 to 41: Calculation of AIM incentive rates

In line with Ofwat's guidance for the AIM, we have based our incentives on customer valuations. We have considered using marginal cost or environmental benefits but have concluded that our most robust and appropriate approach is to use evidence from our customers.

The incentive rates we have used have been generated using two different sources of customer evidence:

1. Customer valuation surveys, which asked customers how much they would value improvements in Water Framework Directive status (specifically for water level and flow) for a generic stretch of river. We have used the values for improvements between different statuses to assess the relative importance of each individual abstraction.
2. A survey of customer total willingness to pay for outcome delivery incentives. From this we gained the total value that customers would be willing to accept as a change in bill level (either positive or negative) due to changes in AIM performance.

Each abstraction is at a different level of water quality and so each improvement has a different valuation.

We have proportioned the total valuation (source two) across the different abstractions based on the valuation (source one) for each abstraction based on the improvements required for the WINEP obligations.

Incentive rates (£ per Ml) are then calculated by setting the maximum outperformance payments at the level of zero abstraction and maximum underperformance penalties at the maximum level of abstraction allowed by the abstraction licenses. This is the proportioned across the ranges either side of the baseline abstraction level to produce the incentive rate.

Columns 42 and 57 – Setting Caps and Collars

We have set our performance levels for caps and collars based on the maximum amount our licence allows us to abstract (for underperformance penalty collars) and the amount that we are expected to reduce our abstraction by in order to comply with our WINEP obligations (for reward caps).

Columns 47 and 52: Setting deadbands

We have set one deadband for the Wilsthorpe abstraction. This is because our current performance has been on average better than the baseline abstraction level. We have therefore committed to beat the baseline abstraction at this site, but have set a deadband, which means that we are not penalised for our good performance to date at this site if we are not abstracting more than the baseline.

Additional information about App1, Columns 132 and 138: P10 and P90 levels

P10 performance has been calculated using a scenario in which we have abstracted the maximum amount of water available to us through our license. We consider that this would be a possibility, although unlikely. This results in a P10 financial impact of £2.78 million per year, which equals the maximum possible underperformance penalty.

P90 performance has been calculated using two different methods, due to site specific differences. For three of the abstractions this reflects the levels of performance we would achieve should we meet the reductions delivered by the schemes included in the WINEP. We believe this to be the best performance we could deliver under the AIM and in line with sustainable levels of abstractions expected once the WINEP schemes have been delivered.

At Wilsthorpe, this approach is not practical as the targeted level is very close to the current baseline abstraction. However we have been able to use historic evidence of performance that can be used to demonstrate the best historic performance at this site. As such our P90 is set on this basis.

APP4 – CUSTOMER METRICS

SECTION A – AFFORDABILITY

Lines 1 and 2: Real bill profile tested with customers from 2020-2021 to 2024-2025 and beyond 2025

We have included the real (before inflation) bill profile from 2019/20 to 2029/30 tested with customers in March 2019. We have not included any data for line 1 prior to 2019/20 as the research conducted was for future bills only.

We have retained the original data for acceptability and affordability for 2015/16 to 2019/20 as this was based on our PR14 research.

We have tested the revised bill profiles with customers and provided new data for acceptability and affordability for 2020/21 to 2029/30. We have followed Ofwat guidance in completing the data tables and excluded neutral responses. This means the headline acceptability quoted will be different to that in the data tables.

We have not tested bills prior to 2019 with customers and so have not provided bill profiles for prior years. Due to changes required by our own financial modelling assurance processes, and Ofwat updates issued after customer engagement had been started, the bill profile consulted on for 2025 to 2030 and shown in App4 is different by a few pence to the profile to the profile from the financial model. The three versions are shown below, along with the variance from the bill profile submitted in our revised plan.

Year	Profile from financial model, 29 March 2019	Profile used in the online community, 13 March 2019		Profile used in the acceptability research, and App4, 19 March 2019	
			Variance		Variance
2019/20	£422.70	£422.70	-	£422.70	-
2020/21	£426.62	£426.62	-	£426.62	-
2021/22	£422.30	£422.30	-	£422.30	-
2022/23	£422.18	£422.18	-	£422.18	-
2023/24	£422.34	£422.34	-	£422.34	-
2024/25	£419.62	£419.62	-	£419.62	-
2025/26	£421.24	£421.15	-£0.09	£421.33	-£0.01
2026/27	£420.73	£420.65	-£0.08	£420.72	-£0.01
2027/28	£420.97	£420.89	-£0.08	£420.96	-£0.01
2028/29	£420.55	£420.47	-£0.08	£420.54	-£0.01
2029/30	£419.36	£419.27	-£0.09	£419.35	-£0.01

Lines 4 and 7: Affordability and Acceptability of bills

For both these lines we have used the acceptability research carried out at PR14 and PR19, by McCallum Layton and Accent respectively. We do not have any directly comparable data for the years 2013/14 and 2014/15 and therefore the cells for these years are left blank.

Line 4: Customers finding the level of their combined bill affordable

In our PR14 research we asked two questions about customers' assessment of affordability. We asked customers whether they saw our plans as value for money, to which 62% agreed. We also asked if the bill levels felt about right, to which 69% agreed (sections 8.3 and 8.3.1, Anglian Water Proposed Plan Acceptability Research 29 October 2013). Although we did not ask a direct question about affordability, both these questions are related to affordability, so for the period 2015 to 2020 we have decided to use an average of the two responses which is 65.5%.

In our PR19 research we asked a direct question about affordability of proposed bills, and 85% of respondents found bills between 2020 and 2025 affordable and 88% found bills for 2025 to 2030 affordable. This includes neutral responses, so in line with Ofwat's data table notes, we have populated the data tables with only positive responses which were given by 64% (for 2020 to 2025) and 67% (for 2025 to 2030) of customers.

We do not have any comparable data for 2013/14 and 2014/15.

Line 7: Customers finding their combined bill acceptable

Acceptability on our business plan at PR14 from years 2015/16 to 2019/20 was rated as 93% in the survey carried out by McCallum Layton in October 2013 (section 8.4, Anglian Water Proposed Plan Acceptability Research 29 October 2013). Informed acceptability on our business plan at PR19 from years 2020/21 to 2029/30 was rated as 91% in the survey carried out by Accent Market Research. This includes neutral responses so in line with Ofwat's data table notes, we have populated the data table with only positive responses which were given by 72% of customers.

We do not have any comparable data for the years 2013/14 and 2014/15 and therefore the cells for these years are left blank.

Lines 9 to 15

The affordability metrics set out in lines 9 to 15 are based on average number of customers in each year, and the resulting revenue impacts.

Figures in years 2013/14 to 2017/18 are based on actual numbers for the reporting year taken from management accounting records, with a correction for any under or over-accrual from the prior year. On this basis, figures reflect the in-year average number of customers assisted and the resulting cost of the cross-subsidy.

Figures for year 2018/19 are forecasts based on the expected out-turn year average as at Period 11 (February).

Figures for 2019/20 to 2024/25 reflect forecast up take of concessionary tariffs consistent with the affordability strategy set out in our Business Plan.

Figures for 2025/26 to 2029/30 reflect an assumption that take-up will revert to exhibit longer trends, reflecting the progress made in AMP7 to spread coverage of the assistance available to all eligible customers.

Line 9: Total value of social tariff discounts (excluding WaterSure)

This comprises discounts arising from the Anglian Water concessionary tariff Aquacare Plus (introduced in April 2000, replacing the Plus 4 tariff introduced in April 1998) and from 2015/16 includes the Anglian Water social tariffs LITE20, LITE40, LITE60 and LITE80 (introduced in April 2015).

The overall trend reflects from AMP5 a proactive approach to check all incoming customer contacts are on the most appropriate tariff for their circumstances; and the subsequent up-scaling of affordability assistance in line with our business plan strategy, both in the build up to and during AMP7, utilising our ExtraCare team to proactively manage take-up on all concessionary tariffs.

Line 10: Cost of social tariff cross-subsidy (per customer)

This is calculated based on the year average for all bill-paying customers, with figures used consistent with actual and forecast growth set out in data table R1.

The change in the cost over the period reflects the introduction of the LITE tariffs, where uptake has been focused on LITE80 with a discount to bills of 80%. As a result whilst the discount on Aquacare Plus is broadly in the region of £80 per customer in receipt of the tariff for the duration of the period covered by the table, the discount for LITE per customer on the tariff is broadly £240 for the duration of the period.

Take-up on LITE is forecast to rise over the period to 49,000 customers by 2024/25, at which level it is maintained through to the end of AMP8.

This explains the increasing cost of the cross-subsidy over time following the introduction of LITE in 2015, as take-up on the tariff increases.

By the end of AMP8 customers are contributing just under £4 for the LITE tariff, in line with the cross-subsidy approved in the last round of customer consultation undertaken in 2016. This compares to Aquacare Plus where the level of cross-subsidy has increased up to £3 per customer in 2018/19 but thereafter stays broadly at that level, increasing to £3.50 by the end of AMP8. This reflects our strategy to actively manage customers on the tariff through our ExtraCare team.

Line 11: Cost of company contribution to social tariff (per customer)

The company makes no contribution to funding social tariff discounts.

Line 12: Number of customers receiving social tariffs (excluding WaterSure)

The overall trend reflects from AMP5 a proactive approach to check all incoming customer contacts are on the most appropriate tariff for their circumstances; and the subsequent up-scaling of affordability assistance in line with our business plan strategy, both in the build up to and during AMP7, utilising our ExtraCare team to proactively manage take-up on all concessionary tariffs.

Line 13: Total value of WaterSure and WaterSure Plus discounts

The overall trend reflects from AMP5 a proactive approach to check all incoming customer contacts are on the most appropriate tariff for their circumstances; and the subsequent up-scaling of affordability assistance in line with our business plan strategy, both in the build up to and during AMP7, utilising our ExtraCare team to proactively manage take-up on all concessionary tariffs.

Line 14: Cost of WaterSure and WaterSure Plus cross-subsidy (per customer)

This is calculated based on the year average for all bill-paying customers, with figures used consistent with actual and forecast growth set out in table R1.

The change in the cost over the period reflects the increase in the number of customers over the tariff.

Line 15: Number of customers receiving WaterSure and WaterSure Plus

The overall trend reflects from AMP5 a proactive approach to check all incoming customer contacts are on the most appropriate tariff for their circumstances; and the subsequent up-scaling of affordability assistance in line with our business plan strategy, both in the build up to and during AMP7, utilising our ExtraCare team to proactively manage take-up on all concessionary tariffs.

Line 16: Total value of hardship funds

The budgeted value of hardship funds is £1 million per annum and we have no plans to change this value at this time. If the value were to change any increase or decrease would see a corresponding change in the bad debt charge.

Line 17: Number of customers receiving hardship funds

The number of customers in receipt of an award is an indicative estimate of the number we anticipate will be awarded during AMP7 and AMP8. There are currently no plans to increase the budget for hardship payments and the forecast assume volumes remain consistent across the AMPs. As a consequence of the budget not increasing our capacity to assist more customers is limited, therefore the number of customers in receipt of an award is expected to be stable.

Line 18: Total value of payment matching support

2013/14 to 2015/16 data was not available and therefore has been estimated using the average of subsequent years as a guide.

The value for 2018/19 is a forecast based on Period 10 numbers. The forecast data for future years is linked to forecast growth in residential properties, less voids, and is a forecast based on the latest available information. Historic figures and future forecasts include an estimate for customers billed by other water companies on our behalf.

Line 19: Cost of payment matching cross-subsidy

We have input the data for this line to seven decimal places, but because it is reported in £m it is therefore displaying as zero values. The table below shows the cost in £ (rather than £m):

2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
£0.215	£0.215	£0.214	£0.237	£0.169	£0.179	£0.179	£0.179	£0.179
2022/23	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**	
£0.179	£0.179	£0.179	£0.179	£0.179	£0.179	£0.179	£0.179	

Line 20: Number of customers receiving payment matching support

2013/14 to 2015/16 data was not available and therefore has been estimated using the average of subsequent years as a guide.

The value for 2018/19 is a forecast based on Period 10 numbers. The forecast data for future years is linked to forecast growth in residential properties, less voids, and is a forecast based on the latest available information. Historic figures and future forecasts include an estimate for customers billed by other water companies on our behalf.

Line 21: Cost of company contribution to payment matching support (per customer)

Payment matching is performed by writing off debt and is therefore reflected in an increase in the bad debt charge. We do not plan to contribute to payment matching support in AMP7 and therefore this line is reported as zero.

SECTION B – VULNERABILITY

Line 22: Customers aware of the non-financial vulnerability assistance measures offered

Data for 2013 to 2017 has been taken from the Consumer Council for Water 2017/18 Water Matters reports.

Targets for future performance will be re-assessed on an annual basis, following an industry benchmarking exercise to ensure we are continually challenging ourselves to achieve industry leading performance.

Line 23: Customers on special assistance register / priority service register (nr)

Historic figures provided are as of the 31 March for each financial year. Figures are taken from the quarterly submissions to the Consumer Council for Water.

Volumes decreased in 2015/16 after we undertook a large cleansing exercise to ensure all information held was up to date and accurate.

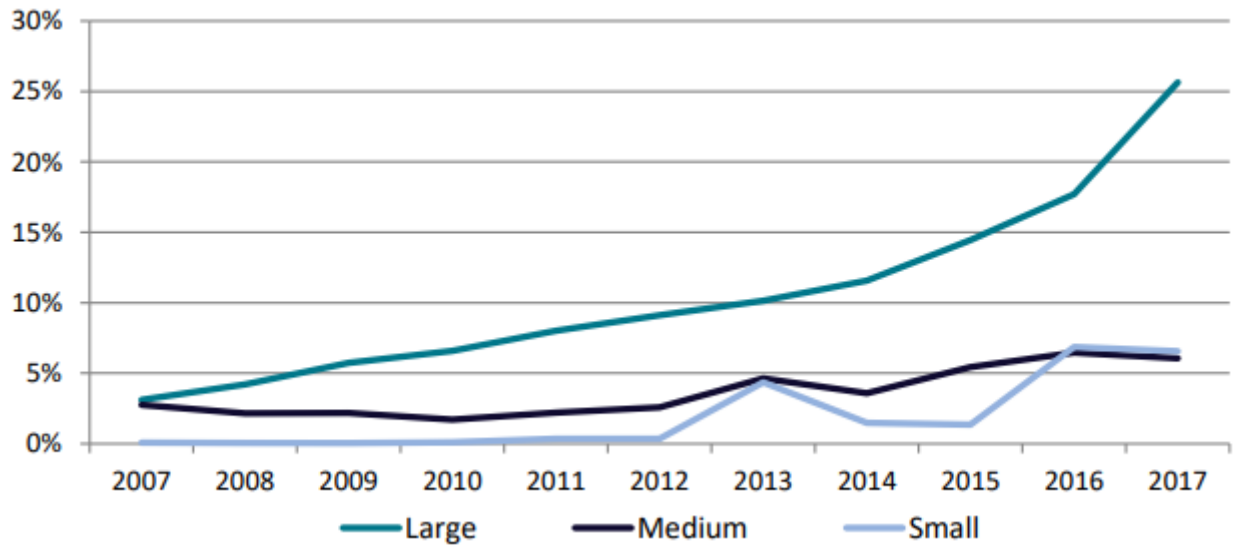
Projections for future performance have been calculated based on a benchmarking exercise of the energy sector's performance.

The graph below depicts the growth rate of the PSR within the energy sector, this is taken from Ofgem's Vulnerable Customers in the Energy Market 2018 report.

The graph shows that from 2007 to 2017 the larger suppliers achieved an increase from approximately 3-4% to 25-26% of customers on the PSR. This equates to an approximate increase of 2.2% per year and an 11% increase over a five year period.

We have set ourselves a challenging target to increase our register from 1.8% to 12.8% of customers over AMP7, including population growth and connected properties billed by other water companies. This equates to approximately 15% of our current connected properties not including population growth.

Figure 2 Proportion of electricity customers on a PSR (trend is similar for PSR gas customers) - by supplier type



Line 24: Customers on special assistance register / priority service register (%)

The percentage is calculated based on the number of PSR customers as a percentage of connected properties, as per the revised guidance issued by Ofwat as part of the IAP of companies' business plans.

The connected household figures have been taken from table R1, line 16 (Household connected). From this we have deducted the number of void premises as recorded in App30, line 1 (Number of void properties - residential).

This calculation provides the number of connected households that may be eligible to receive support, taking into account the fact that some households may be vacant or unoccupied.

The revised calculation now includes both population growth and households that are billed by other water companies. By 2025 we aim to grow the register to 12.8% of connected properties, supporting approximately 381,000 households, with a continued ambition to grow this to 15% by 2030.

Line 25: Customers receiving services through the SAR/PSR - support with communication

We do not hold records of the number of customers receiving support with communication prior to 2017/18. We have estimated historic performance based on the percentage of customers who received support with communication in 2017/18.

Eligibility criteria and service offerings provided under the PSR are due to expand and therefore historic performance within the water sector can not be used as a true indicator of future performance.

To assist with the understanding and predicting future performance, we have undertaken a benchmarking exercise with the energy sector, whose current service offerings are more indicative of future performance. Future predictions are therefore based on anticipated alignment to performance seen within the energy sector.

We have used data from both an energy distribution network company and an energy supplier to support our predictions on the basis that water companies carry out both functions. By analysing the composition of the PSR for both companies we were able to calculate an average of the percentage of customers on the PSR who would be registered with needs indicative of requiring support with communications.

Line 26: Customers receiving services through the SAR/PSR - support with mobility and access restrictions

As with Line 25, we do not hold a record of the number of customers who received support with mobility and access restrictions for previous financial years. We have estimated historic and future performance, based on the percentage of customers receiving support with mobility and access restrictions in 2017/18.

To assist with understanding and predicting future performance, we have undertaken a benchmarking exercise with the energy sector, whose current service offerings are more indicative of future performance. Future predictions are therefore based on anticipated alignment to performance seen within the energy sector.

We have used data from both an energy distribution network company and an energy supplier to support our predictions on the basis that water companies carry out both functions. By analysing the composition of the PSR for both companies we are able to calculate an average of the percentage of customers on the PSR who would be registered with needs indicative of requiring support with mobility and access restrictions.

Within this subset we have also included all customers registered of pensionable age. Although this is not a strict indicator, we know that ageing affects mobility.

Line 27: Customers receiving services through the SAR/PSR - support with supply interruption

Currently all customers registered for priority services would receive additional support in the event of an interruption to supply; this is also true of historic performance.

As the eligibility criteria and service offerings provided under the PSR are due to expand, this may not be reflective of future performance.

Once again, to better understand and predict future volumes, we have undertaken a benchmarking exercise within the energy sector to understand what this might look like in the future.

Using both data from an energy distribution network company and an energy supplier, we assessed the different categories that would required support in the event of an interruption to supply and have calculated this as a percentage of registrations to predict future volumes.

Within the predictions we included PSR categories that would benefit from support in the event of an interruptions to supply or in the event of a water quality incident.

Line 28: Customers receiving services through the SAR/PSR - support with security

We do not hold the requested data for previous financial years. To calculate historic performance we have used the current percentage of PSR customers receiving support with security and applied this to previous years.

As future PSR criteria and service offerings expand we expect customers receiving support with security to reflect a lower percentage of overall customers registered on the PSR. With an increased focus on data security and advances in technology we envisage a greater level of enhanced security for all customers. For example the use of biometric data is now frequently used as an alternative to password and security codes. The ability to be able to view and track visit on mobile phones with both the name and image of the person attending is also possible.

However, it is understood that not all customers will choose to utilise some of these technological advances, and we appreciate that a proportion of customers may wish to continue to use existing security measures, such as registered password schemes.

Line 29: Customers receiving services through the SAR/PSR - support with 'other needs'

This information is not currently captured; therefore we are unable to estimate performance for previous financial years. We intend to introduce a means of capturing this data moving forward. The cells for the years 2013/14 to 2017/18 are left blank.

To provide an estimate of future performance, we have undertaken a benchmarking exercise with the energy sector, using data from both a energy distribution network company and an energy supplier, to understand the percentage of customers registered that may benefit from additional support not covered by the categories previously referenced in lines 25 to 28.

We estimated this as a percentage of the overall PSR population to forecast future performance.

Line 30: Customers satisfied that the services are easy to access

We do not hold any historical data for previous financial years. To understand current performance we have introduced a question with our weekly customer satisfaction surveys. The cells for the years 2013/14 to 2016/17 are left blank.

Current performance has been calculated based on a robust sample of circa 6,000 customers per financial year, for both 2017/18 and 2018/19.

This a priority area and we have set ourselves an ambitious target to deliver significant improvements over the next AMP. We aim to offer an inclusive service for all customers and drive continuous improvement in customer satisfaction levels.

Line 31: Customers on SAR/PSR contacted over the previous two years to ensure they are still receiving the right support

We undertake daily cleansing exercises of those registered with transitory or temporary situations, where we re-engage with these customers to understand if their circumstances have changed and ensure the right support continues to be provided.

In addition to the above we also carry out monthly cleansing activities to remove any customers who have subsequently passed away or moved outside of the Anglian Water region.

Following submission of our Plan in September 2018, we have proactively contacted 100% of customers registered on the PSR to identify those who may have had a change in circumstance and also those who may no longer require support.

In line with the common performance commitment, we aim to engage with at least 90% of those on our register every two years, to ensure customers continue to receive the right level of support.

We will look to develop an approach that takes account of information that will be shared as part of the energy and water sector PSR registration process, as well as adopt an approach that is sensitive to those whose circumstances will require support on a more permanent basis, to ensure we continue to protect their vital interests, and do not increase customer effort.

APP5 - PR14 RECONCILIATION - PERFORMANCE COMMITMENTS

Introduction

For every financial ODI reported in App5 we can confirm the following:

- The amount being claimed is the same as the outperformance payment or underperformance penalty determined by our reported performance (with the exception of SIM and leakage - see below)
- No mitigating factors have been applied to the forecast performance
- There was no ambiguity in the definition of the ODI
- No adjustment has been applied to reflect issues with the past reporting of data
- We have not refined our methodology for reporting.

In accordance with the reporting requirements, we have made no forecast of outperformance payments or underperformance penalties in respect of SIM in table App5. We have reported our SIM forecast revenue adjustment in table R10 line 9 (£26.202m 2017/18 prices).

As our Leakage performance commitment has in-period ODI adjustments we have been careful to ensure that we have only entered the amount that we expect to claim for PR19 (£2.060m, the expected outperformance payment for 2018/19) in App27, line 1 as the "total to be applied at PR19". This is an adjustment to our Plan as submitted in September 2018 based on our latest performance information. We expect to claim the adjustments for 2017/18 and 2019/20 in the in-period ODI determinations in December 2018 and December 2020 respectively.

For the following ODIs there is a material difference between our forecast performance and the performance commitment level. In the relevant sections, we set out the reasons behind these differences.

- Interruptions to supply
- Low pressure
- Per property consumption
- Leakage
- Percentage with SSSIs (by area) with favourable status
- Internal flooding
- External flooding
- Pollution incidents
- Survey of community perception.

Forecasts for 2018/19 and 2019/20 are our own and have not been subject to external assurance. The translation of forecast performance levels into outperformance payments has been subject to internal assurance. No assurance has been undertaken by our Customer Challenge Group. The accuracy and completeness of the information provided in this table is assured as part of the Board's statement of assurance regarding our whole business plan.

In accordance with the reporting requirements, all monetary amounts in this table are in 2012/13 prices.

Compared to our business plan we have updated our forecasts in the following areas: interruptions to supply, leakage, pollution incidents, internal flooding, external flooding and water quality contacts.

W-A2: Water supply interruptions

For 2018/19 and 2019/20 we are forecasting to do better than the performance commitment level, with resulting outperformance payments.

Forecast year	2018/19	2019/20
Performance commitment level (minutes)	12	12
Forecast performance level (minutes)	10	11
Variance from performance commitment level (minutes)	2	1
Outperformance payment rate (£m/minute)	2.8	2.8
Outperformance payment (£m)	= 2 (outperformance level) x 2.8 (outperformance payment rate) = £5.6m	= 1 (outperformance level) x 2.8 (outperformance payment rate) = £2.8m

We have made considerable changes and investments since 2015 to improve our performance on supply interruptions. These include:

- The establishment of a dedicated restoration team
- Development of techniques which allow us to by-pass mains bursts through temporary pipework
- The purchase of ten tankers which enable us to maintain inputs of water into our networks while we repair bursts
- A range of behavioural and cultural initiatives aimed at enhancing the priority given to supply restoration.

Our forecasts of out-performance in years 4 and 5 are based on the evidence of years 1-3, in which we have out-performed the performance commitment level.

Compared to our business plan, we have revised our forecast for 2018/19 based on our improved knowledge of performance during the year.

W-A3: Properties at risk of persistent low pressure

For 2019/20 we are forecasting performance to do better than the performance commitment level, with a resulting outperformance payment. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (no. properties)		257
Forecast performance level (no. properties)	224	150
Variance from performance commitment level (no. properties)		107
Reward deadband (no. properties)		230
Outperformance payment rate (£m/prop)		0.075
Outperformance payment (£m)		= 230 (reward deadband) - 150 (forecast performance) - x 0.075 (outperformance payment rate) = £6.0m

Our forecast for year 5 is based on the success we have achieved since 2015 in reducing the number of properties at risk of low pressure and reflects our long term plan to reduce the number further. It will partly be achieved through the completion of a set of traditional schemes (involving, typically, mains laying, booster pumping stations or improvements to connectivity). But also we have

developed a cost effective solution for improving pressure to individual or small groups of properties. Implementing these solutions will enable us to remove from the register some long-standing properties which have hitherto not been cost beneficial.

W-A4: Water quality contacts

For 2018/19 we are forecasting to outperform the performance commitment level, with a resulting outperformance payment. We are forecasting to meet our performance commitment in 2019/20, with no outperformance payment or penalty.

	2018/19	2019/20
Performance commitment level (no. per 1,000 properties)	1.23	1.23
Forecast performance level (no. per 1,000 properties)	1.18	1.23
Variance from performance commitment level (no. per 1,000 properties)	0.05	0
Outperformance payment rate (£m/contact per 1,000 properties)	1.178	1.178
Outperformance payment (£m)	= 0.05 (outperformance) x 1.178 (outperformance rate) = £0.0589m	0

The number of contacts we have received from customers about the taste, odour or appearance of their drinking water has reduced from around 1.5 per 1,000 properties in 2015. This has been achieved by targetting our mains replacement and cleansing programmes on areas with high numbers of contacts and training our network technicians in better valve operation to minimise the disturbance of network sediments. We also routinely now use social media and other channels to alert customers to the possibility of harmless changes to their water following incidents (e.g. cloudy appearance due to the presence of air) to save them having to contact us.

Compared to our business plan, we have revised our forecast for 2018/19 based on our improved knowledge of performance during the year.

W-B1: Value for money perception - variation from baseline against WaSCs (water)

For 2018/19 and 2019/20 we are forecasting performance to match the performance commitment level, with no resulting outperformance payment or underperformance penalty.

Forecast year	2018/19	2019/20
Performance commitment level (variance from baseline against WASCs)	0	0
Forecast performance level (variance from baseline against WASCs)	0	0
Variance from performance commitment level	0	0
Outperformance payment (£m)	0	0
Underperformance penalty (£m)	0	0

W-C1: Percentage of population supplied by single supply system

For 2019/20 we are forecasting performance to match the performance commitment level, with no resulting underperformance penalty. There was no outperformance payment available for this ODI.

No performance commitment level was set for 2018-19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (% properties on single supply system)		24.7
Forecast performance level (% properties on single supply system)	25.4	24.7
Variance from performance commitment level (% properties on single supply system)		0
Underperformance penalty (£m)		0

W-C2: Frequency of service level restrictions (hosepipe bans)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-D1: Security of Supply Index (SoSI) - dry year annual average

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-D2: Security of Supply Index (SoSI) - critical period (peak) demand

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-D3: Per property consumption (PPC) (litres/household/day reduction)

For 2019/20 we are forecasting to underperform the performance commitment level, with an associated underperformance penalty of £7.8m. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (l/hh/day reduction)		7
Forecast performance level (l/hh/day reduction)	-3	-2
Variance from performance commitment level		-9
Penalty collar (l/hh/day reduction)		0
Variance from performance commitment level (adjusted for penalty collar)		-7

Forecast year	2018/19	2019/20
Underperformance penalty rate (£m/(l/hh/day/year)		0.224
Underperformance penalty		= 7 (collared underperformance level) x £0.224m (underperformance penalty rate) x 5 (years) = £7.8m

Our strategy for meeting our performance commitment was through a combination of behavioural change by our customers (encouraged through our free provision of water saving devices) and continued switching to metered billing. We have been disappointed by the relatively low levels of switching by customers for whom we have provided a meter under our enhanced metering programme. Many customers are resistant to switching even when shown the savings they would make and told about our two year switch back guarantee.

W-D4: Leakage - three-year average

For 2018/19 and 2019/20 we are forecasting to outperform the performance commitment level, with associated outperformance payments totalling £6.2m

As our leakage performance commitment has in-period ODI adjustments we have been careful to ensure that we have only entered the amount that we expect to claim for PR19 (£2.1m, the expected outperformance payment for 2018/19) in App 27 line 1 as the "total to be applied at PR19". We claimed the adjustment for 2017/18 in the in-period determination in December 2018 and expect to claim the adjustment for 2019/20 in the in-period ODI determination in December 2020.

Forecast year	2018/19	2019/20
Performance commitment level (Ml/d lost to leakage, three year average)	192	192
Forecast performance level (Ml/d lost to leakage, three year average)	188	184
Variance from performance commitment level	4	8
Outperformance payment rate (£m/Ml/d/year)	0.509	0.509
Outperformance payment (£m)	= 4 (outperformance level) x 0.509 (outperformance rate) = £2.1m	= 8 (outperformance level) x 0.509 (outperformance rate) = £4.1m

The outperformance that we forecast of our leakage performance commitment level is consistent with the targets we set in our PR14 business plan. Those targets were informed by our PR14 customer research, which told us that customers placed a high priority on leakage reduction and were prepared to pay to bring leakage levels down.

Our leakage forecasts will be delivered by continuation of the strategy we have implemented since 2015 and which delivered leakage reductions in the first three years of the period. Key components of this strategy include the following:

- We have devoted considerable resources to leakage detection, maintaining a large team of detection technicians and making use of new technologies such as noise loggers

- We have substantially increased our ability to manage pressure in our networks. We will have delivered 400 new pressure management schemes and achieved 50% coverage of the network by 2020
- We will have split 150 of our district metering areas (DMAs) into smaller areas to enable quicker location of leaks
- We have developed an integrated enhanced leakage reduction methodology which has delivered a 3 Ml/d per year reduction in base leakage through targeted interventions in high or recurring leakage areas. This includes targeted mainlaying, communication pipe replacements and shared service pipe splits.

Compared to our business plan, we have revised our forecasts for 2018/19 and 2019/20 based on our improved knowledge of performance during the year. That is, we expect our leakage for 2018/19 to be higher than we forecast in the business plan because of the combined impact of the freeze thaw event of March 2018 and the hot, dry summer of 2018. We expect to hit our in-year target of 172 Ml/d in 2019/20 but the three year average outturn will be affected by the 2018/19 performance.

W-E1: Percentage of SSSIs (by area) with favourable status

For 2019/20 we are forecasting significantly to outperform the performance commitment level of 50% by area of the SSSIs in our ownership to be in favourable status. We forecast performance to be 99% because English Nature have recategorised Rutland Water, our largest SSSI, as favourable. This re-categorisation is attributable to many years of investment at Rutland Water on biodiversity projects and erosion reduction through shoreline restoration.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-E2: Environmental compliance (water)

For 2019/20 we are forecasting performance to match the performance commitment level, with no resulting underperformance penalty. There was no outperformance payment available for this ODI.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (obligations delivered)		16
Forecast performance level (obligations delivered)	4	16
Variance from performance commitment level (obligations delivered)		0
Underperformance penalty (£m)		0

W-F1: Operational carbon (% reduction from 2015 baseline)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-F2: Embodied carbon (% reduction from 2010 baseline)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-G1: Survey of community perception

For 2019/20 we are forecasting to underperform the performance commitment level. This is based on the evidence from our community perception surveys of 2015/16, 2016/17 and 2017/18. With the assistance of new media channels, such as social media applications, we now engage with customers and their communities more than ever before. However, we have not been able to match the stretching performance targets we set at the beginning the regulatory period.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

W-H1: Water infrastructure

Commentary on this serviceability ODI and its associated sub-measures is provided in the commentary to App6.

W-H2: Water non-infrastructure

Commentary on this serviceability ODI and its associated sub-measures is provided in the commentary to App6.

W-I1: Mean zonal compliance (MZC)

For 2018/19 and 2019/20 we are forecasting to underperform the performance commitment level. However, we forecast that we will be within the penalty deadband so there will be no underperformance penalty. There was no outperformance payment available for this ODI.

Forecast year	2018/19	2019/20
Performance commitment level (%)	100	100
Forecast performance level (%)	99.96	99.96
Variance from performance commitment level (%)	-0.04	-0.04
Penalty deadband (%)	99.95	99.95
Underperformance penalty (£m)	0	0

S-A2: Properties flooded internally from sewers - three-year average (reduction)

For 2019/20 we are forecasting to outperform the performance commitment level, with a resulting outperformance payment of £8.6m. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (no. of properties flooded, reduction)		27
Forecast performance level (no. of properties flooded, reduction)	133	143
Variance from performance commitment level (no. of properties flooded, reduction)		116
Reward deadband (no. of properties flooded, reduction)		30
Outperformance reward rate (£m/property/year)		0.036

Forecast year	2018/19	2019/20
Outperformance payment (£m)		= 78 (reward cap) - 30 (reward deadband) x 0.036 (outperformance reward rate) x 5 (years) = £8.6m

The following activities have contributed to the reductions in the number of properties experiencing sewer flooding which we have achieved to date and forecast to achieve in the last two years of the regulatory period:

- Continued investment in our Keep It Clear campaign which aims to educate customers and other stakeholders about the consequences of inappropriate sewer use and encourage change in waste disposal behaviours
- A number of the programmes have been prioritised based on reducing overall flood risk across our customer base rather than removing single properties from a flood register
- A programme of rehabilitating and replacing sewers and rising mains where their structural characteristics give rise to repeat flooding incidents
- Greater use of non-return valves where these provide the most cost efficient means of protecting individual properties
- Programmes to reduce infiltration of ground and surface water where infiltration is reducing available sewer capacity
- Investment to improve our ability to monitor flows in networks
- Programmes of Planned Preventative Maintenance (PPM), targetted on high-risk sewers and pumping stations. In 2015 we recruited 21 additional technicians across Collection and Maintenance for proactive inspections of high-risk assets to inform our PPM programmes
- A programme of installing auto control and resets on our pumping stations targeted on repeat issues.

Compared to our business plan, we have revised our forecasts for 2018/19 and 2019/20 based on our improved knowledge of performance during the year. This has no effect on rewards or penalties as we were already forecasting to earn maximum reward.

S-A3: Properties flooded externally from sewers - three-year average (reduction)

For 2019/20 we are forecasting to outperform the performance commitment level, thus avoiding an underperformance penalty. There was no outperformance payment payable for this ODI.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (no. of properties flooded, reduction)		22
Forecast performance level (no. of properties flooded, reduction)	2,120	1,752
Variance from performance commitment level (no. of properties flooded, reduction)		1,730
Underperformance penalty (£m)		0

The activities listed in the previous section (internal sewer flooding) have also contributed to the reduction in the number of properties experiencing external sewer flooding.

Compared to our business plan, we have revised our forecasts for 2018/19 and 2019/20 based on our improved knowledge of performance during the year. This has no effect on our penalty in 2019/20 as we were already forecasting to avoid any penalty.

S-A4: Percentage of sewerage capacity schemes incorporating sustainable solutions

For 2019/20 we are forecasting performance to achieve the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

S-B1: Value for money perception variation from baseline against WaSCs (wastewater)

For 2018/19 and 2019/20 we are forecasting performance to match the performance commitment level, with no resulting outperformance payment or underperformance penalty.

Forecast year	2018/19	2019/20
Performance commitment level (variance from baseline against WASCs)	0	0
Forecast performance level (variance from baseline against WASCs)	0	0
Variance from performance commitment level	0	0
Outperformance payment (£m)	0	0
Underperformance penalty (£m)	0	0

S-C1: Percentage of bathing waters attaining excellent status

For 2019/20 we are forecasting performance to match the performance commitment level, with no resulting outperformance payment or underperformance penalty. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

Forecast year	2018/19	2019/20
Performance commitment level (%)		67
Forecast performance level (%)	65	67
Variance from performance commitment level (%)		0
Outperformance payment (£m)		0
Underperformance penalty (£m)		0

S-C1: Percentage of SSSIs (by area) with favourable status

For 2019/20 we are forecasting to significantly outperform the performance commitment level of 50% by area of the SSSIs in our ownership to be in favourable status. We forecast performance to be 99% because English Nature have re-categorised Rutland Water, our largest SSSI, as favourable. This re-categorisation is attributable to many years of investment at Rutland Water on biodiversity projects and erosion reduction through shoreline restoration.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

S-C3: Pollution incidents (category 3)

For 2018/19 and 2019/20 we are forecasting to outperform the performance commitment level, with resulting outperformance payments totaling £5.9m.

Forecast year	2018/19	2019/20
Performance commitment level (no. of incidents)	298	298
Forecast performance level (no. of incidents)	173	219
Reward deadband (no. of incidents)	298	298
Variance from performance commitment level (adjusted for deadband)	125	79
Outperformance reward rate (£m/incident/year)	0.0285	0.0285
Outperformance payment (£m)	= 125 (forecast outperformance) x 0.0285 (outperformance reward rate) x 5 (years) = £3.6m	= 79 (forecast outperformance) x 0.0285 (outperformance reward rate) x 5 (years) = £2.3m

The reduction in the number of pollution incidents has been driven largely by the same activities discussed for internal sewer flooding. This is because the root causes of pollution incidents are typically the same as those for sewer flooding: sewer blockages (often caused by inappropriate sewer use by customers), lack of realtime information about sewer flows, untargetted maintenance of sewers and pumping stations and infiltration of sewers by ground and surface water. The strategy for pollution incidents prevention includes predictive analytics using pump run-time differential and flow meter trend analysis; network visualisation and weather data integration alongside enhanced pumping station upgrades to enable greater visibility of network performance. It also comprises enhanced monitoring at our Water Recycling Centres and a community engagement Pollution Watch campaign.

Compared to our business plan, we have revised our forecast for 2018/19 based on our improved knowledge of performance during the year. This has the effect of increasing our forecast reward for this year.

S-C4: Environmental compliance (wastewater)

For 2019/20 we are forecasting performance to match the performance commitment level, with no resulting underperformance penalty. No performance commitment level was set for 2018/19 and we have shown our internal forecast. No outperformance payment was available for this ODI.

Forecast year	2018/19	2019/20
Performance commitment level (obligations delivered)		81
Forecast performance level (obligations delivered)	38	81
Variance from performance commitment level		0
Underperformance penalty		0

S-D1: Operational carbon (% reduction from 2015 baseline)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

S-D2: Embodied carbon (% reduction from 2010 baseline)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

S-E1: Survey of community perception

For 2019/20 we are forecasting to underperform the performance commitment level. This is based on the evidence from our community perception surveys of 2015/16, 2016/17 and 2017/18. With the assistance of new media channels, such as social media applications, we now engage with customers and their communities more than ever before. However, we have not been able to match the stretching performance targets we set at the beginning of the regulatory period.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable

S-F1: Sewerage infrastructure

Commentary on this serviceability ODI and its associated sub-measures is provided in the commentary to App6.

S-F2: Sewerage non-infrastructure

Commentary on this serviceability ODI and its associated sub-measures is provided in the commentary to App6.

R-A1: Qualitative service incentive mechanism (SIM) score

For 2018/19 and 2019/20 we are forecasting performance to match the performance commitment level.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

R-A2: Service incentive mechanism (SIM)

The Service Incentive Mechanism is a comparative measure. There is no pre-fixed performance commitment level and outperformance payments and underperformance penalties will be determined on the basis of companies' relative performance over the relevant years (2015/16 to 2018/19).

We have forecast the SIM score we will achieve in 2018/19 and 2019/20. In accordance with the reporting requirements, we have made no forecast of outperformance payments or underperformance penalties in respect of SIM in table App5. We have made a forecast of the outperformance payment we might receive, based on the performance of ourselves and others during the regulatory period to date. We have reported this in table R10 line 9.

R-A3: Customer Satisfaction Index prepared by UK Institute of Customer Service

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

R-B1: Fairness of bills perception - variation from baseline against WaSCs

For 2018/19 and 2019/20 we are forecasting performance to match the performance commitment level, with no resulting outperformance payment or underperformance penalty.

Forecast year	2018/19	2019/20
Performance commitment level (variance from baseline against WASCs)	0	0
Forecast performance level (variance from baseline against WASCs)	0	0
Variance from performance commitment level	0	0
Outperformance payment	0	0
Underperformance penalty	0	0

R-B2: Affordability perception - variation from baseline against WaSCs

For 2018/19 and 2019/20 we are forecasting performance to match the performance commitment level, with no resulting outperformance payment or underperformance penalty.

Forecast year	2018/19	2019/20
Performance commitment level (variance from baseline against WASCs)	0	0
Forecast performance level (variance from baseline against WASCs)	0	0
Variance from performance commitment level	0	0
Outperformance payment (£m)	0	0
Underperformance penalty (£m)	0	0

R-C1: Operational carbon (% reduction from 2015 baseline)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

R-C2: Embodied carbon (% reduction from 2010 baseline)

For 2019/20 we are forecasting performance to match the performance commitment level. No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable.

R-D1: Survey of community perception

For 2019/20 we are forecasting to underperform the performance commitment level. This is based on the evidence from our community perception surveys of 2015/16, 2016/17 and 2017/18. With the assistance of new media channels, such as social media applications, we now engage with customers and their communities more than ever before. However, we have not been able to match the stretching performance targets we set at the beginning the regulatory period.

No performance commitment level was set for 2018/19 and we have shown our internal forecast.

This is a reputational ODI and no outperformance payments or underperformance penalties are applicable

APP6 – PR14 RECONCILIATION – SUB-MEASURES

Introduction

For all of the serviceability ODIs and sub-measures reported in App6 we can confirm the following:

- No mitigating factors have been applied to the forecast performance
- There was no ambiguity in the definition of the ODI
- No adjustment has been applied to reflect issues with the past reporting of data
- We have not refined our methodology for reporting.

On the basis of our forecast performance we forecast no underperformance penalties. No outperformance payments were available for any of the four serviceability ODIs.

For the following sub-measures there is a material difference between our forecast performance and the reference level. In the relevant sections, we set out the reasons behind these differences.

- Customer contacts - discoloration
- Distribution Maintenance Index
- Pollution incidents
- Sewer collapses
- Sewer blockages
- WwTW failing numeric consents.

Forecasts at sub-measure level for 2018/19 and 2019/20 are our own and have not been subject to external assurance. The translation of forecast sub-measure performance levels into serviceability status (RAG) has been subject to internal assurance. No assurance has been undertaken by our Customer Challenge Group. The accuracy and completeness of the information provided in this table is assured as part of the Board's statement of assurance regarding our whole business plan.

W-H1: Water infrastructure

We developed a bespoke serviceability ODI for water infrastructure (WI) at PR14. The key features of the ODI were the following:

- We would make an annual assessment of WI serviceability, defined as Red, Amber or Green (RAG)
- The serviceability assessment in any year would depend on the status of four sub-measures
- The status of each sub-measure would be determined by performance against a pre-defined upper control limit in the current and prior years, and would also be defined as Red, Amber or Green (RAG). A separate reference level was also set for each sub-measure, indicating expected performance.
- Underperformance penalties would be payable for serviceability assessments of Red or Amber, with no scope for outperformance payments.

As set out in the following sections, we forecast performance of all the sub-measures to match or exceed the respective upper control limits in 2018/19 and 2019/20 and therefore be assessed as Green. Given that all four sub-measures were also Green in 2017/18, we forecast WI serviceability as a whole to be also Green.

Unplanned interruptions >12 hours

We have forecast performance of this sub-measure to match the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

Reactive mains bursts

We have forecast performance of this sub-measure to match the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

Customer contacts - discolouration

We have forecast performance of this sub-measure to outperform the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

The following activities have had the greatest impact on our performance on discolouration:

- We have consistently maintained our planned preventative maintenance programme of systematic mains flushing in 150 district metered areas (DMAs) within our Public Water Supply Zones (PWSZs) at highest risk of discolouration
- We have tackled the substantial discolouration issue in Hartlepool with a targeted flushing programme
- In Belstead PWSZ (Ipswich), which is our biggest risk area, we have implemented the programme of measures covered by our Regulation 28 notice with the DWI. The work in Belstead includes mains flushing, network reconfiguration, mains renovation and enhanced maintenance activities at Belstead WTW.

Distribution maintenance index

We have forecast performance of this sub-measure to outperform the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

The activities listed in the previous section (customer contact - discolouration) have also had the greatest impact on our DMI performance.

W-H2: Water non-infrastructure

We developed a bespoke serviceability ODI for water non-infrastructure (WNI) at PR14. The key features of the ODI were the following:

- We would make a annual assessment of WNI serviceability, defined as Red, Amber or Green (RAG)
- The serviceability assessment in any year would depend on the status of three sub-measures
- The status of each sub-measure would be determined by performance against a pre-defined upper control limit in the current and prior years, and would also be defined as Red, Amber or Green (RAG). A separate reference level was also set for each sub-measure, indicating expected performance.
- Underperformance penalties would be payable for serviceability assessments of Red or Amber, with no scope for outperformance payments.

As set out in the following sections, we forecast performance of all the sub-measures to match or exceed the respective upper control limits in 2018/19 and 2019/20 and therefore be assessed as Green. Given that all three sub-measures were also Green in 2017/18, we forecast WNI serviceability as a whole to be also Green.

WTW with coliforms detected

We have forecast performance of this sub-measure to match the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

Percentage service reservoirs with >5% coliforms

We have forecast performance of this sub-measure to match the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

WTW turbidity

We have forecast performance of this sub-measure to match the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

S-F1: Sewerage infrastructure

We developed a bespoke serviceability ODI for sewerage infrastructure (SI) at PR14. The key features of the ODI were the following:

- We would make an annual assessment of SI serviceability, defined as Red, Amber or Green (RAG)
- The serviceability assessment in any year would depend on the status of four sub-measures
- The status of each sub-measure would be determined by performance against a pre-defined upper control limit in the current and prior years, and would also be defined as Red, Amber or Green (RAG). A separate reference level was also set for each sub-measure, indicating expected performance.
- Underperformance penalties would be payable for serviceability assessments of Red or Amber, with no scope for outperformance payments.

As set out in the following sections, we forecast performance of all the sub-measures to match or exceed the respective upper control limits in 2018/19 and 2019/20 and therefore be assessed as Green. Given that all four sub-measures were also Green in 2017/18, we forecast SI serviceability as a whole to be also Green.

Pollution incidents

We have forecast performance of this sub-measure to outperform the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

We set out in the commentary to App5 the key components of our strategy which have led to a reduction in the number of pollution incidents.

Sewer collapses

We have forecast performance of this sub-measure to outperform the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

A programme of rehabilitating and replacing sewers, rising mains and ancillary structures (e.g. silt traps) has contributed to the reduction in the number of sewer collapses which we have achieved to date and forecast to achieve in the last two years of the regulatory period.

Internal flooding (overloaded + other causes)

We have forecast performance of this sub-measure to match the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

Sewer blockages

We have forecast performance of this sub-measure to outperform the reference level for 2018/19 and 2019/20. By definition, this is within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

The following activities have contributed to the reductions in the number of sewer blockages which we have achieved to date and forecast to achieve in the last two years of the regulatory period:

- A programme of rehabilitating and replacing sewers, rising mains and ancillary structures (e.g. silt traps) where their structural characteristics give rise to blockages
- Continued investment in our Keep It Clear campaign which aims to educate customers and other stakeholders about the consequences of inappropriate sewer use and encourage change in waste disposal behaviours
- Programmes of Planned Preventative Maintenance (PPM), targetted on high-risk sewers. In 2015 we recruited 11 additional technicians in Collection for proactive inspections of high-risk sewers to inform our PPM programmes.

S-F2: Sewerage non-infrastructure

We developed a bespoke serviceability ODI for water non-infrastructure (SNI) at PR14. The key features of the ODI were the following:

- We would make an annual assessment of SNI serviceability, defined as Red, Amber or Green (RAG)
- The serviceability assessment in any year would depend on the status of two sub-measures
- The status of each sub-measure would be determined by performance against a pre-defined upper control limit in the current and prior years, and would also be defined as Red, Amber or Green (RAG). A separate reference level was also set for each sub-measure, indicating expected performance.
- Underperformance penalties would be payable for serviceability assessments of Red or Amber, with no scope for outperformance payments.

As set out in the following sections, we forecast one of the sub-measures to underperform against its upper control limit in 2018/19 and therefore to be assessed as Amber. However, given that we forecast the other sub-measure to be Green in 2018/19 and 2019/20, we forecast SNI serviceability as a whole to be also Green for both years.

Population equivalent (PE) WWTW in breach of consent

We have forecast this sub-measure to underperform its upper control limit in 2018/19 (and be assessed as Amber) but to match its reference level in 2019/20 (and be assessed as Green).

WWTW failing numeric consent

We have forecast this sub-measure to underperform the reference level for 2018/19 and 2019/20. This is on the evidence of performance in the first two years of the regulatory period and earlier.

The reference level is set at 0 failing works. While this is our target every year, it is a performance level we have never achieved. Furthermore, the performance we have forecast is good in our historical context.

The performance level we have forecast for 2018/19 and 2019/20 is well within the upper control limit for the sub-measure and therefore the status of the sub-measure for both years is Green.

APP7 - PROPOSED PRICE LIMITS AND AVERAGE BILLS

Lines 1 to 20

Lines 1 to 20 are all copied or calculated cells.

Lines 21 to 24: K factors and bioresources average revenue per tonne of dry solid

These lines have been populated using the outputs of the Ofwat PR19 financial model and Ofwat financial mapping tool.

Ofwat action ref ANH.CA.A10

The company is required to provide a revised financial model and data tables on 1 April 2019. Please see 'Anglian Water: Securing confidence and assurance detailed actions.' Provide a revised financial model (based on version 16z released on 31 January 2019) and data tables on 1 April 2019.

Our response:

We provide a revised financial model and no adjustment has been made to the TDS discount factor calculation in the financial model.

Lines 36 to 38: Average retail bills - residential

These are calculated lines.

The latest version of the Financial model (17z) includes an amendment to the calculation of the allowed revenue per customer used in the average bill calculation (through the worksheet tab "bill module").

The financial model requires the inputting of a single cost to serve for all customer groups. A weighting of costs and customers numbers from companies business plan (R1) is then applied to this single average cost to serve to arrive at a dual customer cost. Below are the relevant lines from the financial model.

	Bill module	2020/21	2021/22	2022/23	2023/24	2024/25
Retail allowed revenue per customer: joint service - real	Row 72	36.07	28.63	28.41	28.17	27.91
Adjustment factor for dual service bills - bill module	Row 73	1.15	1.15	1.14	1.13	1.11
Retail allowed revenue per customer: joint service - bill module - real	Row 74	41.50	32.79	32.28	31.73	31.11

The data tables do not include the functionality to apply an adjustment to the single supply bill. As no adjustment factors is applied, Line 38 (Average retail residential component ~ combined) incorrectly shows the single supply customer bill (row 72 bill module tab – financial model) rather than the dual customer bill (row 74 bill module tab – financial model).

Line 39: Average total bill - water

Report year 2018/19

The average bill value for 2018/19 is calculated based on a latest forecast of charge multipliers (customer numbers by service and demand) and our published charges. This is in line with average bill information provided to Ofwat in January 2019.

Line 40: Average total bill - wastewater

Report year 2018/19

The average bill value for 2018/19 is as calculated based on a latest forecast of charge multipliers (customer numbers by service and demand) and our published charges. This is in line with average bill information provided to Ofwat in January 2019.

Line 41: Average total combined bill

Report year 2018/19

The average bill value for 2018/19 is as calculated based on a latest forecast of charge multipliers (customer numbers by service and demand) and our published charges. This is in line with average bill information provided to Ofwat in January 2019.

Report years 2020/21 to 2024/25

This line is calculated using App7, line 38 (Average retail residential component ~ combined) that incorrectly reports the single supply customer bill rather that a dual customer bill (see commentary above).

The following table show the WaSC average bill calculation from the financial model that includes the corrected dual customer adjustment.

	Summary calculation	2020/21	2021/22	2022/23	2023/24	2024/25
WaSC average bill - real (£)	Row 1179	426.62	422.30	422.18	422.34	419.62

Line 46: Discount rate for reprofiling allowed revenue

The discount rate is the wholesale cost of capital on a blended 50:50 RPI/CPIH basis.

APP8 - APPOINTEE FINANCING

Line 1: Net debt

Opening net debt is calculated as gross Class A and Class B debt, amounting to £6,806.5 million, less any cash balances and authorised investments of £512.2 million. As per the definition this has been deflated to 2017/18 prices using forecast CPIH.

This reflects modest changes to our opening cash balances, and cash / debt mix from our Plan.

Line 2: Equity dividends paid

We have assumed that equity dividends are recognised when paid, which is our normal accounting practice.

Equity dividends are sized to ensure the minimum credit metric requirements and at a level consistent with reducing overall gearing of our Group.

For PR14 the level of dividend planned for 2019/20 was £124 million, however, our PR19 planned dividend for 2020/21 is only £73 million, a year-on-year reduction of 41%. In AMP6 we have already moved a long way to reduce dividends in order to lower gearing. For example in 2017/18 the Anglian Water dividend available for distribution to investors in the ultimate parent company was £86.1 million compared with £128.0 million in the previous year, a reduction of 33% (source: page 165 of the Anglian Water Annual Integrated Report 2018).

Dividends to be paid to our ultimate shareholders are being further reduced through to 2025, with excess cash expected to be injected to Anglian Water as permanent equity financing. These equity injections, which are discussed below in the line 3 commentary, are expected to result in a significant reduction in the company's level of debt and gearing.

This is consistent with our Plan.

Line 3: Cash inflow from equity financing

Over the remainder of AMP6 and into AMP7, it is expected that Anglian Water will receive permanent equity injections from its owners, thus helping to reduce its level of gearing. The first of these equity injections was made in October 2018 of £22 million.

For reporting simplicity, we have assumed in tour Plan that the receipt of the equity injections offsets the dividends paid by Anglian Water in App11 – Income statement.

The change reflects completion of the first permanent equity injection into the Company since our Plan was submitted on 1 September 2018.

Lines 5 to 12: Water RCV closing balance at 31 March 2020

These lines have been populated based upon the outputs of the RCV adjustment feeder model.

Lines 43 to 52: Wastewater RCV closing balance at 31 March 2020

These lines have been populated based upon the outputs of the RCV adjustment feeder model.

Line 53: Bioresources RCV (prior to midnight adjustments) 31 March 2020

This line reflects the updated Bioresources RCV allocation from WS12, Line 18.

APP9 – ADJUSTMENTS TO RCV FROM DISPOSALS OF INTEREST IN LAND

Lines 1 and 12: Forecast at previous review - water and wastewater

We have reported the net proceeds from the disposal of interests in land for 2014/15 as forecast at PR14.

As the forecast at PR14 was not allocated between water and wastewater disposals, a 50:50 allocation has been applied to the total forecast net proceeds which is broadly inline with the actual proceeds received.

Lines 2 and 13: Actual and current forecast sales - water and wastewater

For the years 2014/15 to 2017/18, total actual land sale proceeds net of all costs and net book values are reported. The split between water and waste water is based on the operational purpose of the sites being disposed.

The forecast disposals for 2018/19 have been updated to reflect actual sales in the year-to-date and the final forecast for the year-end position.

The variance to our Plan as submitted in September 2018 relates primarily to overage received on prior-year sales, which due to its inherent uncertainty in terms of both timing and value was not included in the previous forecasts.

The forecast for 2019/20 remains unchanged.

Line 4: WACC - fully post tax on notional structure

This line reflects the real full post tax WACC that applied at PR14.

Line 15: WACC - fully post tax on notional structure

This line reflects the real full post tax WACC that applied at PR14.

APP10 – FINANCIAL RATIOS

SECTION A: FINANCIAL RATIOS – NOTIONAL CAPITAL STRUCTURE

We describe in chapter 15 of our Plan (*Balancing risk and reward*) how we have ensured that our Plan is financeable on an actual and notional structure.

Lines 1-11: General

These lines have been populated using the Ofwat PR19 financial model and Ofwat financial mapping tool.

Line 1: Gearing

Notional gearing is set at 60% at the start of AMP7, in line with the Ofwat guidance.

Lines 2 to 4: Interest cover

This measures the number of times operating cash flow, after deducting the costs of maintaining our assets or regulatory depreciation charge whichever is the greater, covers the total cash interest cost.

Line 4: Adjusted cash interest cover (alternative calculation)

As we have not applied any adjustment to the PAYG ratio and have applied the natural PAYG ratio for each year of the AMP, the Adjusted cash interest cover ratio - Appointee (Alternative) is the same as Adjusted cash interest cover ratio (Ofwat) – Appointee (App10 line 3).

Lines 5 to 6: Funds from operations / Net debt

These lines are calculated in line with guidance.

Line 10: Return on capital employed

This line is calculated in line with guidance.

Line 12: Target credit rating

Our corporate family credit rating with Moody's is Baa1. We have targeted this level both for the notional and the actual capital structure. We also target unchanged credit ratings with the other two rating agencies.

SECTION B: FINANCIAL RATIOS – ACTUAL CAPITAL STRUCTURE

Line 23: Gearing

We plan to reduce the level of gearing in AMP7. This is being achieved through external shareholders receiving reduced dividends. Excess cash will be recycled back into Anglian Water via permanent equity financing.

Line 25: Adjusted cash interest cover

This measures the number of times operating cash flow, after deducting the costs of maintaining our assets or regulatory depreciation charge whichever is the greater, covers the total cash interest cost.

The Plan ratios are an average level of 1.4x during AMP7, against the recommended rating agency target of 1.3x.

Since submitting our Plan in September 2018, we have been pursuing opportunities to improve the headroom of our credit metrics and have implemented a number of CPI debt solutions. This has resulted in modestly improved ratios.

Line 28: Funds from operations / net debt (alternative calculation)

FFO/net debt ratio follows the same definition as undertaken by S&P. Our PR19 plan ratios achieve similar levels as were achieved in our PR14 final determination and reflect our current rating. S&P's recommended target is 6% and our base plan ratios achieve the target by year five. We are confident that given our performance, we will be able to maintain our current rating.

Line 29: Dividend cover

We do not use this metric in assessing financeability.

Equity dividends are sized to ensure we meet the minimum of three times interest cover at Osprey Acquisitions Ltd (OAL) and are at a level consistent with reducing Group gearing.

As shown in App8, the net dividend / equity financing is minimal due to the ultimate shareholders receiving reduced dividends over the AMP. Excess cash is to be recycled back in Anglian Water via permanent equity financing.

Line 30: RCF / net debt

This is calculated in line with line 28: Funds from Operations (FFO) / Net Debt (alternative calculation) with the exception of the deduction of dividends from FFO.

However, significantly reduced dividends are paid to shareholders, all excess dividends paid from Anglian Water are returned to Anglian Water as permanent equity financing.

Line 31: RCF to Capex

We do not use this metric in assessing financeability but it is an overall measure of a company's ability to finance a capital programme at the scale envisaged given the dividends assumed to be paid out. It is based on our dividend policy.

Whilst the profile and level of this ratio fluctuates year on year we consider it to be acceptable. We have seen similar fluctuations in this metric in the current AMP.

Line 32: Return on Capital Employed

This line is calculated in line with guidance.

Line 34: Target credit rating

We are required to maintain credit ratings for both class A and class B debt. Each of the three credit rating agencies rate these debt classes slightly differently. Our covenants require us to achieve a minimum rating from two of the three agencies. We target unchanged ratios as follows:

- For Class A debt (which is the majority of it) the target rating is A- / A3 / A (S&P / Moody's / Fitch)
- For Class B debt the target rating is BBB / BBB+ / Baa3

We maintain a corporate family rating consistent with Ofwat's licence requirement with one agency, Moody's, which is Baa1. This remains our target credit rating.

Query ANH-IAP-RR-003 was raised by Ofwat in respect of our use of subordinated debt. Since submitting our Plan in September 2018, there has been further evidence from rating agencies in relation to other financing transactions in the industry. This has enabled us to increase the level of new debt that is Class A debt and consequently reduce the proportion of Class B (subordinated) Debt. We target circa 70% Class A debt with Class B debt making up the remainder.

APP11 – INCOME STATEMENT BASED ON THE ACTUAL COMPANY STRUCTURE

Line 1: Revenue

Revenue is populated from the Ofwat PR19 financial model, an analysis of this can be found in App17.

Line 2: Operating expenditure

The level of annual expenditure is higher than seen in AMP6. This is due to a number of factors such as increased operating expenditure on new capital schemes, and the switch to more cloud based solutions (Opex) compared with on-premise IT solutions (Capex), which has the effect of increasing Opex and lowering Capex. More detail on the various variances is found in the WS1 and WWS1 commentary.

Line 3: Depreciation

Depreciation based on the actual structure differs from that based on the notional structure, which is calculated by the regulatory model. This is primarily due to the calculation of additions which, under the regulatory model, are based on Capex net of grants and contributions (G&C) income. This results in depreciation being presented net of the G&C amortisation where as, under the actual structure, this is shown within other income, as instructed in the pre-submission query process.

Line 4: Amortisation

For statutory and regulatory reporting we present computer software and internally generated assets as intangible assets and the corresponding depreciation charge is presented as amortisation. However, in order to meet the requirements of the regulatory model, these assets have been shown as tangible assets in App12 and App16, with the corresponding amortisation being shown as deprecation in line 3 rather than amortisation in line 4. In App16 there is no accounting goodwill and therefore our amortisation reported in this line is nil.

Line 5: Operating income

This line is nil on the basis that we are not forecasting any significant profit or losses on fixed asset disposals in the period, nor any exceptional items.

Line 7: Other income

We have continued to defer developer contributions in our PR19 business plan. Under IFRS 15, an alternative treatment would be to recognise developer contributions immediately as revenue; however, this is still the subject of debate in the industry. We are aware that a number of companies plan to continue to defer revenue recognition, which is also an acceptable approach under IFRS 15. Consistent with our Plan, revenue from developer contributions is recognised on a deferred basis.

In addition to other income included in the notional income statement, as instructed, in table 11 we also have included the amortisation of these grants and contributions within the other income figures. As noted above, this is included within depreciation in the notional income statement (App11a).

Lines 8 and 9: Interest income and expense

Interest income reflects the forecast interest received on cash deposits. The interest expense relates to the forecast interest payable on our embedded debt at the rates disclosed in App19 and the forecast interest payable on new debt issued in line with the rates assumed by Ofwat, also detailed in App19. These have been updated to reflect the actual debt raising and derivatives we have undertaken since submitting our Plan in September 2018.

Line 10: Interest expense related to the unwinding of discounted liabilities

This line is nil across the period because our regulatory financial model does not forecast the interest expense related to the unwinding of discounted liabilities. Typically the charge is relatively small (£0.3 million in 2017/18) and fluctuates depending on the discount rate used.

Line 12: Fair value gains/(losses) on derivative financial instruments

Our regulatory financial model does not forecast the volatile non-cash fair value movements of derivative financial instruments, and therefore we have assumed no movements in the plan. This is consistent with showing the underlying economic performance of the business.

Line 14: UK corporation tax

The corporation tax charge is equal to that based on the notional company structure, which has been calculated using the Ofwat PR19 financial model.

Line 15: Deferred tax

The deferred tax charge is equal to that based on the notional company structure, which has been calculated using the Ofwat financial model, as we do not expect any material timing difference between those forecast in the notional and actual company structure.

Line 17: Dividends

Equity dividends are sized to ensure we meet the minimum of three times interest cover at a parent company, Osprey Acquisitions Ltd (OAL) and are at a level consistent with reducing overall Group gearing. Our base plan includes no dividends to our ultimate shareholders.

Over the remainder of AMP6 and into AMP7, it is expected that Anglian Water will receive permanent equity financing from its owners, thus helping to reduce its level of gearing. The first of these equity dividends of £22 million was made in October 2018.

For reporting simplicity, we have assumed in our Plan that the receipt of the permanent equity financing offsets the dividends paid by Anglian Water, i.e. these are shown on a net basis.

APP11A – INCOME STATEMENT BASED ON A NOTIONAL COMPANY STRUCTURE

Introduction

These lines have been populated using the Ofwat PR19 financial model and Ofwat financial mapping tool. The exceptions to this are lines 4, 10 and 12 which are zero in the notional company structure.

Differences between the actual income statement (App11) and the notional income statement (App11a) are as follows:

Lines 3 and 7: Depreciation and Other income

In the notional income statement, depreciation is calculated based on capex net of grants and contributions (G&Cs), whereas in the actual income statement, amortisation of G&Cs is shown within other income.

Lines 8 and 9: Interest income and Interest expense

This is based on actual forecast borrowings and interest rates in the actual income statement whereas the notional income statement is calculated based on outputs from Ofwat's PR19 financial model in which borrowings are maintained at a level which achieves a 60% notional gearing ratio.

Line 17: Dividends - actual dividends

These are shown net of any forecast equity injection, are based on actual forecast dividends as detailed in App11. Notional dividends are based on outputs from Ofwat's PR19 financial model in which borrowings is set at a level which achieves an opening 60% notional gearing ratio.

APP12 – BALANCE SHEET BASED ON THE ACTUAL COMPANY STRUCTURE

The balance sheet at 31 March 2020 has been updated to reflect the impact of actual totex, totex transfers from capex to opex in 2018/19, and increased revenue in 2018/19, predominantly due to the 2018 hot summer. These updates flow through to fixed assets, debtors and creditors.

Lines 6 and 24: Retirement benefit assets and obligations

Retirement benefit assets and obligations represent the net IAS19 accounting surplus of our defined benefit pension scheme which was £9.1 million as at 31 March 2018, although on an actuarial basis there is a deficit. On 31 March 2018, following a period of consultation with representatives of all employees, the defined benefit sections were closed for future accruals. In the year to 31 March 2019 the Company made its scheduled deficit reduction payment and this is planned to continue for the remainder of AMP6 and throughout AMP7. As a result the accounting surplus has been forecast to grow each year by the annual deficit payments for the period to 31 March 2025. This surplus has been shown as a negative liability in line with Ofwat guidance. We have not updated this position to reflect market valuations post 1 September 2019.

Line 9: Trade and other receivables

Trade receivables are primarily driven by forecast debtor days and income accrual rates. A full analysis can be found in App13.

Line 11: Cash and cash equivalents

Cash and cash equivalents are calculated using our financial model, for the actual balance sheet we are forecasting an increase in cash in the final year in order to fund debt repayment scheduled for 2026.

Line 13: Trade and other payables

Trade payables are primarily driven by forecast creditor days and a full analysis can be found in App14. We note that the total trade and other payables reported in App14, line 15 does not agree to the amount reported, as it does not include retail tax creditors. A full explanation can be found in the commentary to App14, line 12.

Line14: Capex creditor

The capex creditor includes accruals which are evidenced by the increased payment days when compared to trade creditor days. The payment profile adopted results in a consistent year-end creditor balance.

Line 17: Current tax liabilities

We have included a £298 million inter-group corporation tax liability within wholesale other payables. This liability reflects amounts owed to other group companies, where the regulated company has disclaimed capital allowances for the benefit of these other companies. There is an agreement that the regulated company does not have to pay the inter-group tax liability until it receives the benefit of the disclaimed capital allowances. No amounts are owed to HMRC. We have therefore included this liability within wholesale other payables. We note that its inclusion in corporation tax liabilities would result in the incorrect allocation of interest in the regulatory model.

Line 26: Deferred income - G&Cs

We have continued to defer developer contributions in our PR19 business plan. Under IFRS 15, an alternative treatment would be to recognise developer contributions immediately as revenue, however this is still the subject of debate in the industry, and we are aware that a number of

companies plan to continue to defer revenue recognition, which is also an acceptable approach under IFRS 15. Consistent with our Plan, revenue from developer contributions is recognised on a deferred basis.

The forecast deferred income balance has been allocated between G&C and adopted assets based on the 2018 actual ratio.

Line 27: Deferred income - adopted assets

Deferred income in relation to adopted assets is amortised over the life of the asset, this amortisation is shown within other income in App11 as instructed.

The forecast deferred income balance has been allocated between G&C and adopted assets based on the 2018 actual ratio.

Line 35: Other reserves

Other reserves represent the cumulative impact of financial derivatives as at March 2020, which are reallocated to other reserves by the balance sheet feeder model. We do not forecast derivative movements and therefore this balance remains the same for the AMP.

Section J: Wholesale and retail line item split - actual company structure

We have assumed that profits in the residential retail business are distributed as dividend, and therefore its retained profits are nil each year.

We have also assumed that the Capex creditor and cash balances reside in the wholesale business only.

APP12A - BALANCE SHEET BASED ON A NOTIONAL COMPANY STRUCTURE

The balance sheet at 31 March 2020 has been updated to reflect the impact of actual totex, totex transfers from capex to opex in 2018/19, and increased revenue in 2018/19, predominantly due to the 2018 hot summer. These updates flow through to fixed assets, debtors and creditors.

These lines have been populated using the Ofwat PR19 financial model and Ofwat financial mapping tool and are equal to the actual balance sheet, with the exception of the following lines:

Lines 6 and 24: Retirement benefit assets and obligations

Retirement benefit obligations, which are equal in both notional and actual balance sheets at March 2020, differ in subsequent years as the actual forecast position is based on forecast deficit payments, while the notional balance sheet position is adjusted each year by the wholesale recovery payments excluding those relating to the retail price control as reported in table R1 (further details can be found in the commentary to App12).

Line 11: Cash and cash equivalents

The large overdrawn position is caused by the additional debt requirements being met by an increase in overdraft in the Ofwat PR19 financial model.

Lines 15 and 22: Borrowings

Notional borrowing produced by the Ofwat PR19 financial model are calculated such that the notional company opening gearing is set at 60%. Actual borrowings in App11 are based on forecast amounts.

Line 25: Provisions

Provisions reported in the notional balance sheet assume a nil starting position in 2020 and therefore only reflect forecast actual movements.

Line 26 to 27: Deferred income - G&Cs & adopted assets

The balance sheet produced by the Ofwat PR19 financial model assumes no deferred income in relation to G&C and adopted assets in 2020 and future years. As discussed in detail in the commentary to App11, the model also calculates fixed asset balances for each year based on capex additions, which are net of any G&C received, this also results in a lower notional depreciation compared to the actual.

As the notional balance sheet reported in App12a is calculated from the actual forecast figures reported in App16 rather than that produced by the model, this difference, which can be reconciled as the G&C income reported in WS1 and WWS1 and the difference in depreciation between App11 and App11a, reflecting the depreciation on this G&C income, has been reported in Line 26: Deferred income - G&Cs.

Line 34: Retained profits

This reflects the forecast notional retained profits which will differ from the forecast actual as a result of the differences noted in the commentary to App11a.

APP13 - TRADE RECEIVABLES

Lines 1 to 4: Trade receivables net

The trade receivables balances are derived from our Treasury cash flow model after applying the debtor days in section D. The reduction in debtor days reflects the forecast improvement in the recovery of customer debt.

Business customer / business retail debtors are shown as nil as we no longer have a business customer retail business.

Lines 6 to 7: Measured income accrual

The measured income accrual is derived from multiplying the relevant forecast turnover figures by the forecast measured income accrual rates shown in section E. The rates are derived from the reported turnover and measured income accrual for the year to 31 March 2018.

As we sold our non-household retail business in 2018, we have no business retail measured income accrual. The wholesale element of the business accrual is included within line 12.

Lines 5 and 8: Prepayments, accrued income and other trade receivables

Our prepayments relate to Opex items, such as rent and rates, which typically do not fluctuate significantly from one year to the next, therefore we have assumed they remain flat in real terms (increasing by CPIH) for working capital forecasting purposes.

Line 11: Trade and other receivables - net

This represents trade receivables due from non-retail customers and is based on amounts receivable in the last reported financial year.

Line 12: Prepayments and accrued income (wholesale)

This represents the monthly accrual for wholesale revenue, which based on historical data, represents 8.82% of wholesale income.

Section D: Retail debtor days

These are based on the forecast debtor days as mentioned above, which have then been applied to the cash flow model for AMP7.

Section E: Measured income accrual rates

For measured income accrual rates we have used our internal forecasts for the remainder of AMP6 and then applied these rates over AMP7. We have assumed there will be no significant change to billing cycles over AMP7.

APP14 - TRADE AND OTHER PAYABLES

Line 1: Wholesale trade payables

We have assumed the average creditor days calculated for AMP6 apply throughout AMP7. Advance receipt creditor days are calculated as the turnover divided by the year-end payments on account balance, multiplied by 365.

Line 2: Wholesale other payables

Wholesale other payables relate to accruals and other payables which include customer deposits ranging from £37 million to £40 million in the AMP.

In addition, a £298 million inter-group corporation tax liability has been included in wholesale other payables. This liability reflects amounts owed to other group companies, where the regulated company has disclaimed capital allowances for the benefit of these other companies. There is an agreement that the regulated company does not have to pay the inter-group tax liability until it receives the benefit of the disclaimed capital allowances. No amounts are owed to HMRC. We have therefore included this liability within wholesale other payables. We note that its inclusion in corporation tax liabilities would result in the incorrect allocation of interest in the regulatory model.

The difference between our Plan and our IAP Response relates to changes in working capital as a result of changes to Totex and Debt and is primarily the interest accrual.

Line 4: Wholesale creditors' residential retail

This line is shown as nil as there is no cashflow between our wholesale and retail business.

Line 5: Wholesale creditors' business retail

This is shown as nil as we no longer have a non-household retail business.

Lines 6 to 7: Retail trade and other payables

These lines are shown as nil as we do not separate retail creditors from wholesale.

Lines 10 to 11: Business customers / business retail advance receipts

These are shown as nil as we no longer have a business customer retail business.

Line 12: Retail tax creditors

This new line introduced by Ofwat for the IAP Response represents the forecast difference between the tax charge in App11 and the tax payments in App15. We note, however, that this line is not included in the total (line 15), resulting both the table not casting and a difference to that reported in App12, line 13.

Lines 16 to 19: Trade creditor days

Trade creditor days are assumed to be consistent with those reported in the current AMP. We have no evidence to suggest this would vary by price control and therefore no differentiation has been made. Our normal payment terms are net monthly so on average suppliers are paid 45 days after we receive the invoice. The calculation includes payroll and other costs which has the effect of reducing the overall creditor days balance.

The difference between our Plan and our IAP Response is due to the change in Opex. As the adjustment is not material and given the level of estimation uncertainty, in order to aid comparability to our plan, we have not updated wholesale trade payables.

Line 21: Capex creditor days

The capex creditor includes accruals, which is evidenced by the increased payment days when compared to trade creditor days. The payment profile adopted results in a consistent year-end creditor balance.

Lines 24 to 25: Business customers / business retail advance receipts creditor days

These are shown as nil as we no longer have a business customer retail business.

Lines 26 to 27: Retail creditor months

These lines are shown as nil as we do not separate retail creditors from wholesale.

Section D: Dividend creditors wholesale retail split

We have assumed that all dividends are paid in the period to which they relate, we therefore have no dividend creditors.

APP15 - CASHFLOW BASED ON THE ACTUAL COMPANY STRUCTURE

All lines in this table are populated based on our financial model. Included within other income is amortisation of deferred income in relation to grants and contributions which is a non-cash item. In order to present cash generated from operations and in turn net capex correctly we have adjusted line 6 'changes in working capital - trade and other payables' to reflect this non-cash movement.

Line 9: Cash generated from operations

The level of cash generated throughout the period is consistent with our cash generation experience in AMP6.

Line 21: Increase / decrease in net cash

The overall movement in cash over the plan period is consistent with the balance sheet movement in cash and cash equivalents.

APP15A - CASHFLOW BASED ON A NOTIONAL COMPANY STRUCTURE

These lines have been populated using the Ofwat PR19 financial model and Ofwat financial mapping tool.

The primary differences between the cashflow based on the actual company structure in App15 and the cashflow based on the notional company structure are as follows:

1. Net interest paid is higher in App15 due to a higher level of forecast debt compared to the notional company structure.
2. Cash flows from financing activities show a net inflow based on the actual company structure compared to a net outflow in the cashflow based on the notional company structure. This is as a result of lower equity dividends paid in the actual company structure and an inflow from an increase in borrowings and equity financing.

APP16 - TANGIBLE FIXED ASSETS

App16 has been updated to reflect the revised capex submissions included tables WS1a and WWS1a. For full details of these changes, please see the commentaries for WS1a and WWS1a.

No other changes have been made to the assumptions used in populating this table.

This table provides forecasts of tangible fixed asset values and depreciation charges by price control. These forecasts are based on planned depreciation on both existing fixed assets held in SAP and on planned asset commissioning of the forecast capital programme for the remainder of AMP6 and all of AMP7.

A key number of assumptions have been made in compiling these forecasts:

- The majority of capital expenditure is directly attributed to the price control to which the spend relates. Where this is not possible, for example for IT and other management and general assets shared by more than one price control, the spend has been allocated in full to the price control of principal use. A subsequent recharge of depreciation is then made between the relevant price controls to account for the usage of the assets by other price controls
- Commissioning profiles for the remainder of AMP6 and for AMP7 have been set based on current asset under construction balances together with historic commissioning trends
- The average asset lives used for future commissioning have been based on average lives reported in AMP6. These include downwards revisions to reflect changes to shorter lives of certain operational assets which were noted in 2017/18.

Section D: Fixed asset accumulated depreciation at 31 March

Between the year ended 31 March 2020 and the year-ended 31 March 2021, the annual depreciation charge on tangible fixed assets is forecast to fall by £20 million. This fall is a result of circa £50 million of additional accelerated depreciation on resilience assets, primarily in Bioresources, between 1 October 2017 and 31 March 2020. These assets are not expected to be used by the Company after 31 March 2020 and are therefore being depreciated to zero net book value by that date. It is assumed they will be removed from the asset register on 31 March 2020.

APP17 - APPOINTEE REVENUE SUMMARY

No commentary is required for this table as all cells are calculated.

APP18 - SHARE CAPITAL AND DIVIDENDS

Section A: Equity shares

Over the remainder of AMP6 and into AMP7, it is expected that Anglian Water will receive equity injections from its owners, thus helping to reduce its level of gearing. We are currently assessing the mechanisms to deliver these equity injections with our lenders.

For reporting simplicity, we have assumed in our Plan that the receipt of the equity injections offsets the dividends paid by Anglian Water. Therefore both the dividend and the equity injection have been netted off in App11, which is why we are not showing any increase in share capital in respect of the equity injections.

Section B: Equity dividends

Equity dividends are sized to cover the minimum of three times interest cover at Osprey Acquisitions Ltd (OAL) and are at a level consistent with reducing gearing.

As shown in App8, the net dividend / equity financing is minimal due to the ultimate shareholders receiving significantly reduced dividends over the AMP. Excess cash is recycled back into Anglian Water via permanent equity financing.

We have assumed that all dividends will be paid as final dividends and no special dividends will be declared.

As required by the validation rule in Section B, we have only populated one of the lines 8 to 11 - we have populated line 8 (Ordinary dividend). The validation rules for lines 9 to 11 are therefore flagged as incomplete.

As required by the validation rule in Section B, we have only populated one of the lines 12 or 13 - we have populated line 12 (Interim dividends). The validation rule for line 13 is therefore flagged as incomplete.

Section C: Preference shares

We have assumed no preference shares will be issued in the period.

APP19 - DEBT AND INTEREST COSTS

SECTION A: EQUITY SHARES

Lines 1 to 3: Opening debt

This is formula driven based on the other lines in section A.

Line 5: Floating rate debt issued

Floating rate debt issued. In our Plan, we target circa 10% of floating rate debt in accordance with our Board approved Treasury policy.

Lines 7 to 9: Debt repaid

These lines represent interest rate swaps as well as debt repaid, therefore balances on individual lines may be positive.

SECTION B: INTEREST RATES AND FINANCING COSTS

Line 11: Interest rate for existing fixed rate debt

These costs have reduced since we submitted our Plan in September 2018, reflecting the actual debt raised in 2018/19. In addition, as we have been pursuing opportunities to improve financeability headroom, notably through CPI inflation linked debt and swaps, there is a lower fixed rate debt. There is a corresponding increase in the rate for embedded index linked debt in line 13.

Line 12: Interest rate for new fixed rate debt

The expected Class B debt issuance has reduced since we submitted our Plan in September 2018, reflecting evidence from rating agencies in respect of other companies' financings. Consequently these costs have reduced since the initial submission. The interest rates for the new fixed rate debt shown are the rates applied to new fixed rate debt in each respective year only and represent Ofwat's average of 3.4% cost of new debt.

Line 13: Interest rate for existing index linked debt

These rates have increased since we submitted our Plan in September 2018, reflecting the actual debt raised and derivatives undertaken in 2018/19. There is a corresponding decrease in the rate for embedded fixed rate debt in line 11.

Line 14: Interest rate for new index-linked debt

The interest rates for the new index-linked rate debt shown are the rates applied to new debt in each respective year only. We continue to plan on raising CPI linked debt only and not RPI linked debt or derivatives, and therefore the rates are effectively Ofwat's 3.4% cost of new debt on a real CPI basis.

Line 20: Bank overdraft interest rate

Bank overdraft interest rates are based on forecast Libor rates plus margins of 0.40% in 2019/20 and 1% thereafter. These are the interest assumptions modelled on our capital expenditure facility.

Line 21: Residential retail working capital financing cost rate

We have assumed this is the average cost of debt across our portfolio since we do not draw funds solely to service the residential retail working capital.

Line 22: Business retail working capital financing cost rate

Business retail working capital financing cost rate – we have assumed 0% for this as we have exited the retail market.

SECTION C: ADJUSTMENTS FOR RECONCILIATION WITH BALANCE SHEET

There is no reconciling items, as the table agrees with the balance sheet.

APP20 - COST OF DEBT / ANALYSIS OF DEBT

Table App20 is not required to be submitted as part of our IAP Response.

APP21 - DIRECT PROCUREMENT FOR CUSTOMERS

We have undertaken a detailed analysis of the potential projects that would benefit customers in this area. During AMP7 there are no projects that will be delivered through this route, and this is reflected in tables WS18, line 5 and WWS18, line 6.

In App21, Section A, we have identified the expenditure required for a new raw water storage reservoir, that may be required in the future. Expenditure is planned to enable the award of a Direct Procurement Contract (DPC) in April 2028 (within the AMP8 period). The need for this scheme will be determined in our next Water Resources Management Plan (WRMP24), and forms part of our approach to 'adaptive planning' as outline in the *Resilient Water Supplies* chapter of our Plan. If required, the scheme will output (beneficial use) by 2035 (commencement of the AMP10 period).

Our WRMP indicates that we may require a new water storage reservoir in our region in operation by April 2035. The need will be finalised at WRMP24, but we intend to start planning for the delivery of this asset now, to ensure it can be delivered within the appropriate time scales. The indicative programme of activity is outlined below, but is subject to change as the project evolves through its lifecycle.

SECTION A: PROJECT 1

Indicative development and delivery programme

Our WRMP indicates that we will require a new water storage reservoir in operation by April 2035. To enable this to be achieved, the programme of activity detailed in the figure below is required. The indicative programme will change as the project evolves through its lifecycle.

Figure 3 South Lincolnshire reservoir programme

Line 1: Development costs (Anglian Water)

To minimise the risk to a DPC delivery partner we have assumed a 'late' tender model. To enable this to happen we are required to complete a number of development activities. The development activity is assumed to be complete prior to contract award to the DPC contractor. We have allowed for the following activities under this heading:

- Programme and project management - Internal programme management function
- Surveys and investigations - Topographical surveys, preliminary and detailed site investigations
- Outline design - Sufficient to enable the Development Consent Order (DCO) process to be completed
- Enablement - All aspects of service diversion, flood risk management and habitats creation
- Public relations - Public relations management for the programme
- Land and compensation - Land purchase, temporary construction compound, compensation and fees
- Planning approval - DCO pre application and full application
- Consent application - Consent negotiation and applications
- Employee duties - Construction (Design and Management) Regulations (CDM) management.

Line 2: Procurement costs (Anglian Water)

Our approach is based on a 'late' tender model. As outlined above we have assumed that planning and enabling has been completed which reduces the risks to the delivery partner. The scope of the procured services of the delivery partner will include detailed design, build, construction, operations and financing and hand over on completion of the contract.

We have assumed a typical Design Build Finance Operate Transfer (DBFOT) Public Private Partnership (PPP) type procurement activity including Request for Information (RFI) and Request for Proposals (RFP) stages with approximately two to three bidders progressing to more advanced stages of procurement process.

It is currently assumed any re-tendering of the operations contract (potentially every five years) can be absorbed within the existing procurement activity included in existing cost base.

For planning purposes we have assumed procurement begins in 2026/27 and lasts for 24 months until 2027/28 with an anticipated contract commencement of April 2028 (see programme above). We have allowed for the following activities under this line:

- RFI and RFP process - Full-time internal procurement team
- Contract specification writing - Specialist team of technical writers
- Legal advice - External legal advisors
- Commercial and financial advice - External commercial and financial advisors
- Project assessment - Ratings agency engagement and project assessment
- Insurance advice - External insurance advisors
- Debt advice - Debt benchmarking
- Data room - Establishment and management of a data room.

Line 3: Contract management costs (Anglian Water)

We have reviewed potential contract management models, and the costs are reflective of the complexity and operational interfaces that are required for this scheme. We have allowed for the following typical roles to manage the contract through the various phases:

- Contract Manager
- Operational Interface Manager
- Flow, data and billing (quantity)
- Water quality (quality)

- Contract Administrator
- Quality assurance (part time)
- Legal Advisor (part time).

Line 4: End of contract asset value

We have defined this line as the residual value of asset remaining at the end of the Competitively Appointed Provider (CAP) concession period (assumed 25 years). This would be transferred back to Anglian Water Services as Regulatory Capital Value (RCV) and where remaining costs will be recovered from customers under the conventional price control framework.

The economic asset life of the reservoir is assumed to be 100 years. However, depreciating the asset over this full period under a DPC model will create a high residual value at the end of the concession period. This is unlikely to be attractive to investors as it creates a significant risk associated with the residual value of the asset given potential uncertainty of how this may be treated at the end of the 25 year concession period. Typically residual values in PPP/Private Finance Initiative (PFI) contracts are zero at the end of the concession period.

A large terminal value at the end of the concession period implies that a significant part of the DPC provider's remuneration will come in one lump sum at the end of the contract period. As a smaller portion of the DPC provider's remuneration will come from the annual CAP revenue streams, reduced revenue cashflows during operation would lead to limited financeability of the project and higher financing costs.

The estimated value is £199.160 million and is not included in the tables as the contract would conclude post 2049/50 which beyond the forecast timescale in WS18 and WWS18.

Line 5: Total appointee costs

This is sum of lines one to four above.

Line 6: Expected CAP revenue stream

It is assumed that revenues to the CAP will begin after the construction period is completed. This is in line with other DBFOT and PFI type contracts.

The construction period of the reservoir asset is assumed to be four years (excludes filling and commissioning, which is expected to take two years).

Key modelling CAP revenue stream assumptions include:

- Concession period: 25 years
- Debt financing costs:
  - Bullet repayment bond: six year forward Nominal Gilt with a tenor of 25 years plus spread of 130bsp, model input 2.68%
  - Bond finance through operations: six year forward Nominal Gilt with a tenor of 14 years plus 125bps, model input 2.41%
  - Bank debt through construction: 6 month LIBOR plus 240bps, model input 3.64%
- Equity financing costs: 10% equity IRR
- Gearing: model input 89.9%
- Depreciation period: set to leave 30% residual asset value at concession period end (the full asset is depreciated over its economic asset life of 100 years)
- Residual value: 30% of total asset value
- Depreciation treatment: straight line
- Inflation: CPI(H) model input 2%
- Efficiencies: 10% on total opex and 5% on total capex during concession period (including both initial and renewal capex)
- Innovation: not included

- Additional costs to CAP provider for bid costs for legal/financial advisors expected to be recovered by CAP:
  - Estimated bid costs:
    - Technical advisor (£0.5 million)
    - Commercial / financial advisor (£0.75 million)
    - Legal advisor (£1.25 million)
    - General bid management (£2.0 million)
    - Total £4.5 million one off costs.

Line 7: Expected CAP capex

The costs have been developed using internal and external benchmarks. Internal cost models use outturn cost from completed schemes. Where data is unavailable, specific models have been developed and are held within our cost model library. Costs have been 'triangulated' using external cost models. Costs allocations are based on International Financial Reporting Standards (IFRS) accounting standards.

The capital cost profile is based on standard S curves which are derived from the estimated cost of the project.

Scheme construction and renewal capital costs over the asset life take into account a 5% efficiency assumption on total capex during the contract period under a DPC model.

Line 8: Expected CAP opex

The annual operating costs are based on bottom up estimates using unit cost models. The unit costs to develop the models are based on actual costs which are representative of the operation of this type of asset. Costs allocations are based on IFRS accounting standards. The costs have been developed using our cost estimation system which has been reviewed by our third party assurance providers.

Scheme operating and maintenance costs over the asset life take into account a 10% efficiency assumption on total opex during the contract period under a DPC model.

APP22 - PENSIONS

SECTION A: ACCOUNTING CHARGE INCLUDED IN REGULATORY ACCOUNTS FOR DELIVERED BENEFIT SCHEMES

Lines 1 to 6: Charge for DB schemes

The total of lines 1 to 6 reflects the total reported Defined Benefit (DB) charges in our annual report and accounts. The allocation to price control is based on an apportionment in line with direct employment costs.

No charges are reported on line 2 for business retail after 2016/17 as the non-household business was transferred out of the appointed business on 1 April 2017.

No charges are reported across any of the price controls after 2017/18 as our DB pension scheme closed to future accrual on 31 March 2018, although the Company will continue to meet the costs of operating the scheme for its deferred members and pensioners.

Lines 8 to 9: Wholesale water and wastewater charges capitalised

We do not separately measure the level of capitalisation by price control, as a large proportion of capital work is undertaken by shared support activities. We have therefore used the average figure for 'own work capitalised' taken from our annual report and accounts.

SECTION B: ACCOUNTING CHARGE INCLUDED IN REGULATORY ACCOUNTS FOR DEFINED CONTRIBUTION SCHEMES

Lines 10 to 15: Charge for DC schemes 2012/13 to 2019/20

The total of lines 10 to 15 reflect total reported DC charges and are apportioned in line with employee direct costs. As part of our agreement with employees to close the DB scheme to future accrual, employees were given greater flexibility as to the amount they contributed with the Company paying increased contributions as a result, up to 12% of pay. Charges in 2018/19 and beyond increase due to the closure of the DB scheme in March 2018. They are also apportioned based on employee direct costs.

No charges are reported for business retail on line 11 after 2016/17 as the non-household business was transferred out of the appointed business on 1 April 2017.

Lines 10 to 15: Charge for DC schemes 2020/21 to 2024/25

The total of lines 10 to 15 reflect the roll forward of costs from 2019/20, using current average contribution rates and take into account the additional cost of increased headcount arising from capital investment over AMP7. The values in lines 12 to 15 from 2020/21 to 2024/25 have been updated to reflect the change in enhancement expenditure as detailed in table WS2.

Lines 17 to 18: Wholesale water and wastewater charges capitalised

We do not measure separately the level of capitalisation by price control, as a large proportion of capital work is undertaken by shared support activities. We have therefore used the average figure for 'own work capitalised' taken from our annual report and accounts.

SECTION C: CASH CONTRIBUTIONS (DB SCHEMES, ONGOING) - ACTUAL AND FORECAST

Lines 19 to 26: Cash contributions (DB schemes ongoing)

Our DB scheme closed to future accrual on 31 March 2018 and therefore there are no future cash contributions.

SECTION D: CASH CONTRIBUTIONS (DB SCHEMES, DEFICIT RECOVERY) – ACTUAL AND FORECAST

Lines 27 to 34: Cash contributions (DB schemes deficit recovery)

Base deficit recovery payments have been agreed with pension trustees until 2026. The base level agreed starts at £12.5 million in 2018/19 and increases by RPI annually thereafter. Allocation to price control is broadly in line with our AMP6 determination and in line with our annual report and accounts.

In February 2018, we reached agreement with our Pension Trustees and employees to close the defined benefit pension scheme to future accrual. In reaching this agreement we agreed enhanced pensions for the members, and a deficit recovery plan through to 2026, but as an alternative to agreeing even higher deficit contribution payments, a Contingent Credit Support Agreement of £59 million was agreed which would automatically see additional payments, prior to the next actuarial valuation, in the event of a deterioration of the credit position of the company, or a worsening of market economics which cause the deficit recovery plan to slip.

Our base plan incorporates the base deficit recovery agreed with the Trustees at the March 2017 valuation which is consistent with us submitting our Plan which is targeting no change in the level of credit ratings, and with interest rates and inflation which are consistent with the deficit recovery plan. However, in the event that our Company Covenant was to deteriorate, for example through lower credit ratings, or market conditions worsen such that the Recovery Plan was not achieved with the deficit recovery plan, then additional Company contributions, up to £59 million, would automatically be payable under the Contingent Credit Support Agreement. In any event we have committed that £59 million will be invested in the Scheme by 2030. Consequently, consistent with IN/13, we consider we have demonstrated that we have implemented significant measures to protect the business, and customers interests such that customers are not paying any more than was assumed in 2009. Shareholders continue to bear the risks of the pension scheme, but we are proposing that customers should pay three further payments of £21.3 million consistent with the 2009 expectations and Ofwat's PR19 assumed final payment.

APP23 - INFLATION MEASURES

In line with the IAP Q&A published on 18 February 2019, no update has been made to the inflation forecast.

Lines 1 to 13: Retail Price Index

The 2018/19 and 2019/20 RPI forecasts are broadly consistent with the consensus forecasts from leading investment banks.

Lines 14 to 26: Consumer Price Index (with housing)

The forecast reflects the 1% wedge between RPI and CPIH, as reflected in the calculated cells in line 36.

Line 27: Indexation rate for index linked debt percentage increase

This line reflects RPI index linked debt.

Lines 37 to 38: Long term inflation rates

RPI forecast based upon Bank of England longterm forecast and forecast RPI/CPIH wedge.

APP24 - INPUT PROPORTIONS

For each price control we have calculated input proportions as follows:

1. We have treated opex and capex separately. On the basis of our historical expenditure, we can forecast what proportion of opex and capex respectively we will spend on each of the five cost categories prescribed in App24 (labour; energy; chemicals; plant, materials, equipment; other)
2. We take our planned opex and capex expenditure from tables WS1 (for Water Resources and Water Network Plus), WWS1 (Water Recycling Network Plus and Bioresources) and R1 (for Residential Retail). From this data we can calculate the relative proportions of opex and capex in our totex plan
3. Taking the figures from step 1 and step 2 we have, using proportional calculations, allocated totex across the five cost categories.

For example, the proportion of totex which is allocated to labour is the proportion of opex in the totex plan multiplied by the proportion of opex allocated to labour plus the proportion of capex in the totex plan multiplied by the proportion of capex allocated to labour.

We have exited the business market therefore Block F (lines 30 to 34) is not applicable and remains blank.

We have revised the figures in this table to reflect the change in the proportional split between opex and capex in our IAP Response. The impact of these changes is very small.

APP24A - REAL PRICE EFFECTS AND EFFICIENCY GAINS

SECTION A: GENERAL

Our general approach in calculating Real Price Effects (RPEs) is set out in the Efficiency and Innovation section of our Plan. In the following commentary, we set out our forecasts of Input Price Inflation (IPI) for the main cost elements and the sources of the data which we have used in generating these forecasts. IPI is an estimate of the expected nominal price increases for each cost category.

For the four wholesale price controls, we focus on the RPE rather than the IPI. The RPE is equal to the IPI minus the nominated index of inflation, CPIH. For all years within the forecast period, and for all controls, we have assumed an annual CPIH rate of 2.0%. This is consistent with the CPIH forecast from App23.

For all but two cost categories (Other Opex and Capex materials, plant and equipment), the assumptions behind our RPE forecasts are the same for each of the five price controls to which we are subject. These common assumptions are set out below in this section. The price control specific assumptions are set out in the subsequent sections.

We have not updated either our price effect estimates for the five specified cost types or our proportional allocation of opex and capex across the five cost types for our IAP Response because the impact of any updated analysis was unlikely to be material. We have also not revised our projections for continuing productivity improvement. The figures in App24a are therefore unchanged from our Plan as submitted in September 2018.

Opex costs

Opex labour costs

The nominal labour rate increases we use are taken from the March 2018 Office For Budget Responsibility (OBR) *'Economic and Fiscal Outlook'*. While we recognise the argument that as a company we have a demand for specialist labour (especially within the civil engineering sphere) which may raise the nominal labour rate increase year by year, we cannot justify why we would have a higher proportion of high demand labour than in the general economy. As such, we consider that the OBR forecast can reasonably be applied to Anglian Water over the forecast period. The OBR forecasts run out to 2022/23. We have assumed that the 2022/23 rate is maintained up to the end of AMP7.

Opex energy costs

Smoothing out volatility, electricity prices have more than doubled since AMP3. Most of the upward pressure on prices has come from higher fuel costs, but there have also been significant increases in the charges that suppliers must pay to the transmission and distribution networks and new green levies.

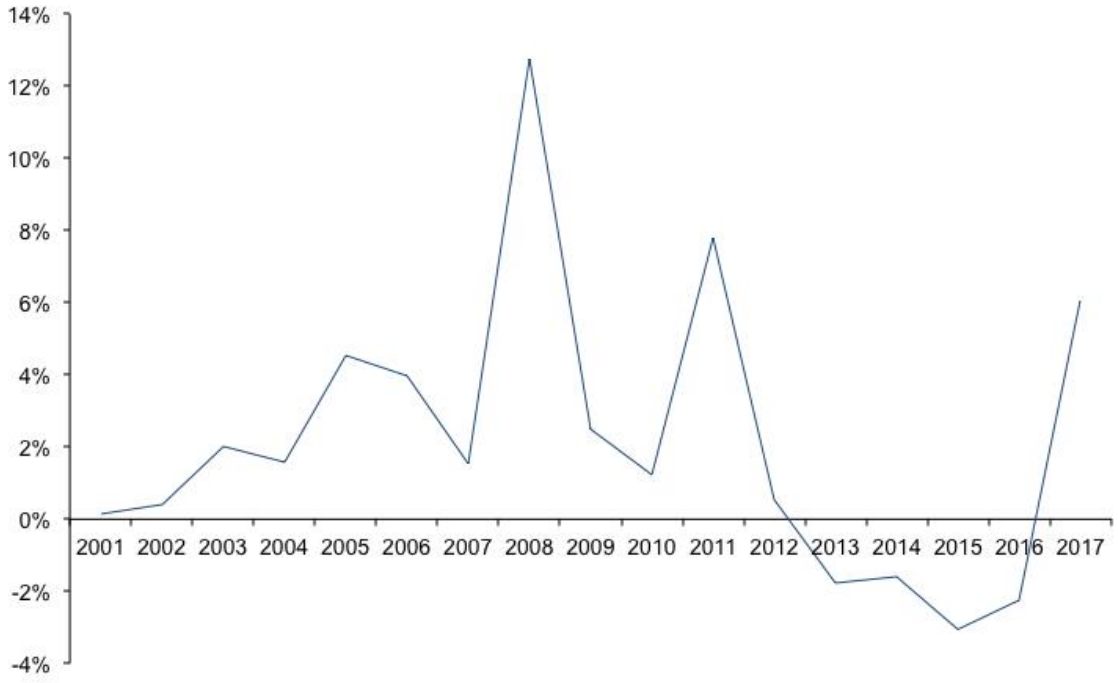
Going forward, the future direction in UK energy prices depends mainly on global oil prices. There is a wide range of available forecasts, reflecting, understandably, considerable uncertainty about the underlying geopolitics. For current purposes, we have used the electricity price forecast in the 2017 *Energy and Emissions Projections* of the Department of Business, Energy and Industrial Strategy (BEIS).

Opex chemicals costs

Unlike labour and energy prices, where we have independent forecasts of future price changes, all we have to rely on for the remaining cost categories is past price behaviour.

Historical data for the change in the cost of chemicals is taken from the Chemical and Chemical Products component of the Office of National Statistics (ONS) producer input prices index. This is set out in the figure below (Source: ONS).

Figure 4 Change in the cost of chemicals



The annual change in the price paid by firms for chemicals has shown considerable volatility over the last 15 years, with increasing prices up until 2012 followed by four years of price reductions and then a marked jump in prices during 2017. Year-on-year changes range from over 12% in 2008 to -3% in 2015.

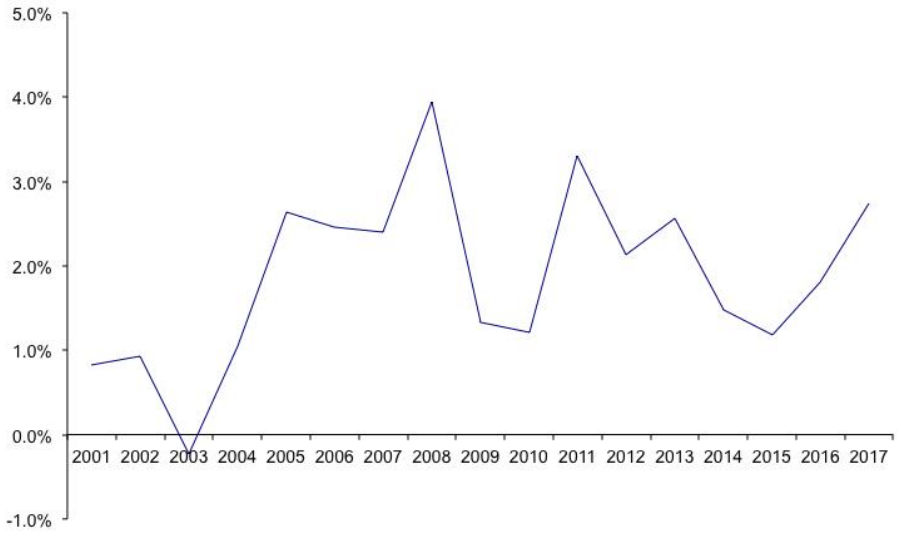
The main, long-term driver of cost increases is, once again, growing global demand for raw commodities, driven in turn by rapid economic growth in less developed parts of the world. In forecasting what will happen to chemical prices in the coming months and years, one has to take account first and foremost of likely commodity price movements. Here the story for the foreseeable future remains one of continued strong demand from China and other developing countries putting pressure on supply and driving prices up. Insofar as the outlook for global economic growth is one of strong and stable expansion, the likeliest or central scenario has to be one in which prices move in line with the average rates of growth that have been observed in our selected index since around 2003.

This points to an IPI of around 2.5% per annum.

Opex materials, plant and equipment costs

We look first at pieces of machinery which are installed on the network. An indication of historical cost trends in this area can be obtained by looking at the prices that UK firms in general are paying for plant and machinery. This is set out in the figure below (source: ONS).

Figure 5 Historical cost trends - Opex materials, plant and equipment

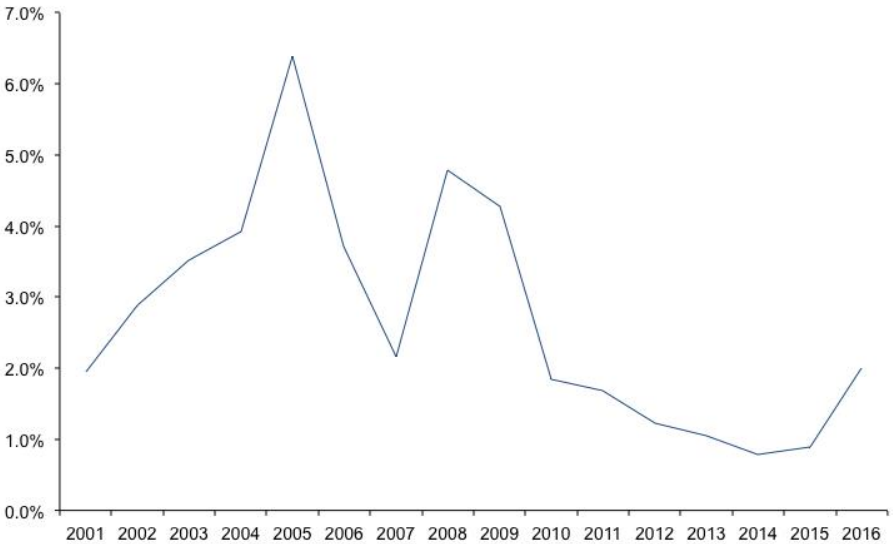


The picture here is very different from the analysis of labour costs. The chart shows that prices have increased quite steadily in recent years even when the UK economy was in recession.

In making projections of prices during through to 2025, we think it is prudent to assume that cost increases will continue at a similar rate to the recent past. We therefore allow for annual prices increases of 2.5% per annum.

The best indicator of the cost pressures impacting on the plant and equipment that utility companies use to repair and extend their networks is the RICS' Building Cost Information Service (BCIS) plant and road vehicles index. The following graph plots the annual change in this index over the period 2000 to 2016 (source: BCIS).

Figure 6 RICS' Building Cost Information Service plant and road vehicles index



Due in part to the reduction in demand brought about by the recession in the construction sector, inflation has fallen from between 2% and 6% per annum during the 2001 to 2008 period to around 1% per annum between 2011 and 2015. However, there has been an increase in inflation in the last 12 months due to the impact of imported inflation pressures.

We continue to provide for an inflation rate of 2.5% in our forecasts, in line with long-term historical averages.

Combining our estimates for materials, and plant and equipment, we have used an overall rate of 2.5% annually across AMP7.

Other opex costs

Other opex costs is one of the two categories of cost for which the IPIs and therefore the RPEs vary from price control to price control. As such, it is described in the sections below.

Capex costs

Capex labour costs

We see no reason to alter the rate of nominal labour cost increase which we used for opex for the purpose of capex labour costs.

Capex energy and chemicals costs

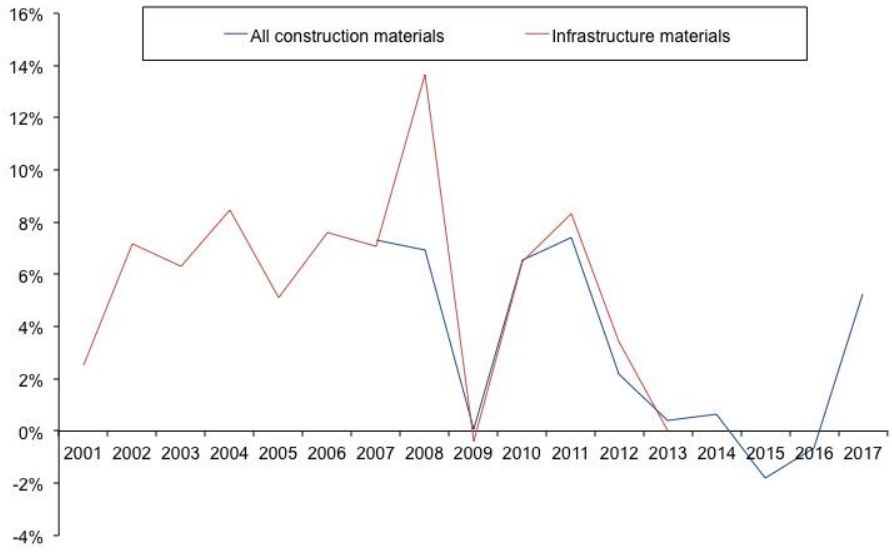
As no material expenditure is forecast on energy or chemicals in our capital programmes, we do not forecast any nominal inflation rates for these items.

Capex materials, plant and equipment

Capex Materials, Plant and Equipment is the other category of cost which varies between price controls as each price control has different proportions of materials and plant and equipment. As these sub-categories have different IPIs, the effect is to move the overall IPI for the overall category.

Materials in capex comprise the bricks, concrete, metal and plastics that water companies use in construction work. The figure below plots the BEIS cost of construction materials (all works) index, alongside the discontinued resource cost of infrastructure materials index (source: BEIS).

Figure 7 Cost of construction materials (all works) index and Resource cost of infrastructure materials index



The chart shows that inflation was subdued between 2012 and 2016 before prices jumped noticeably during 2017, probably due to the depreciation in the value of sterling. Prior to 2012, cost increases had been running at above 4% for most of the preceding decade.

The Competition Commission, Ofgem and economic commentators have all previously assumed that the rate of increase of general materials costs in steady state is between 2% and 4.5%. We continue to take the view that this is a reasonable medium-term benchmark to factor into forward-looking RPE calculations. We have used a figure of 4.0% over the forecast period for capex materials.

Capex plant and equipment is assumed to move in line with the BCIS plant and road vehicles index data shown above. The same assumption is used as for opex plant and equipment, that is to say 2.5% annually across the forecast period.

We need to combine our forecasts of cost movements for materials and plant and equipment to produce a weighted average. From Anglian Water project cost data, we have computed separate weights by value for materials and plant and equipment for the four separate categories of capital expenditure: capital maintenance for infrastructure and non infrastructure as well as enhancement capital expenditure for infrastructure and non infrastructure. These are set out in the tables below:

Capital maintenance	Nominal cost change		Weighting		Weighted average nominal cost change
	Materials	Plant	Materials	Plant	
Water infra	4.0%	2.5%	59%	41%	3.4%
Water non-infra	4.0%	2.5%	79%	21%	3.7%
Sewerage infra	4.0%	2.5%	81%	19%	3.7%
Sewerage non-infra	4.0%	2.5%	75%	25%	3.6%

Capital enhancement	Nominal cost change		Weighting		Weighted average nominal cost change
	Materials	Plant	Materials	Plant	
Water infra	4.0%	2.5%	59%	41%	3.4%
Water non-infra	4.0%	2.5%	79%	21%	3.7%
Sewerage infra	4.0%	2.5%	73%	27%	3.6%
Sewerage non-infra	4.0%	2.5%	73%	27%	3.6%

Other capex costs

Other capex costs are principally Hired and Contract Services (HCS) which are taken to move in line with labour costs.

SECTION B: REAL PRICE EFFECTS INCLUDED IN WHOLESALE WATER RESOURCES

Opex costs

Our RPE calculations for Water Resources assume nominal annual changes in the costs of key cost elements for opex which are set out in the table below.

Inputs - nominal cost change - opex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Energy	3.0%	1.8%	0.0%	1.3%	3.1%
Chemicals	2.5%	2.5%	2.5%	2.5%	2.5%
Materials, plant and equipment	2.5%	2.5%	2.5%	2.5%	2.5%
Other	3.0%	3.0%	3.0%	3.0%	3.0%

Other opex costs

As mentioned in Section A, the IPI and thus RPE for Other opex costs is price control specific. The main elements in other opex for Water Resources are shown below in the table below.

Water Resources	Cost share	Input price change
Business rates	67.0%	3.0%
Abstraction charges	33.0%	3.0%
Weighted average PE		3.0%

Business rates are indexed to RPI so we use an input price equivalent to the long-run RPI forecast, which we take to be 3.0%, in line with the OBR's current long term forecast.

We assume that the Environment Agency (EA) charges for abstraction licence fees will be indexed to RPI.

Capex costs

Our RPE calculations for Water Resources assume nominal annual changes in the costs of key cost elements for capex which are set out in the table below.

Inputs - nominal cost change - capex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Materials, plant and equipment (capital maintenance infra)	3.4%	3.4%	3.4%	3.4%	3.4%
Materials, plant and equipment (capital maintenace non infra)	3.7%	3.7%	3.7%	3.7%	3.7%
Materials, plant and equipment (capital enhancement infra)	3.4%	3.4%	3.4%	3.4%	3.4%
Materials, plant and equipment (capital enhancement non infra)	3.7%	3.7%	3.7%	3.7%	3.7%
Other	2.6%	2.8%	3.0%	3.0%	3.0%

Capex Materials, Plant and Equipment

As mentioned in Section A, the proportions of materials and plant and equipment differs between the different price controls. As each of these sub-categories of cost has differing IPIs, the overall IPI and thus RPE differs between price controls.

SECTION C: REAL PRICE EFFECTS INCLUDED IN WHOLESALE WATER NETWORK PLUS

Opex costs

Our RPE calculations for Water Network Plus assume nominal annual changes in the costs of key cost elements for opex which are set out in the table below.

Inputs - nominal cost change - opex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Energy	3.0%	1.8%	0.0%	1.3%	3.1%

Inputs - nominal cost change - opex	2020/21	2021/22	2022/23	2023/24	2024/25
Chemicals	2.5%	2.5%	2.5%	2.5%	2.5%
Materials, plant and equipment	2.5%	2.5%	2.5%	2.5%	2.5%
Other	3.0%	3.0%	3.05	3.0%	3.0%

Other opex costs

As mentioned in Section A, the IPI and thus RPE for Other opex costs is price control specific.

The only item in other opex for Water Network Plus is business rates. These are indexed to RPI so we use an input price equivalent to the long-run RPI forecast, which we take to be 3.0%, in line with the OBR's current long term forecast.

Capex costs

Our RPE calculations for Water Network Plus assume nominal annual changes in the costs of key cost elements for capex which are set out in the table below.

Inputs - nominal cost change - capex	2020/21	2021/22	2022/23	2023/04	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Materials, plant and equipment (capital maintenance infra)	3.4%	3.4%	3.4%	3.4%	3.4%
Materials, plant and equipment (capital maintenance non-infra)	3.7%	3.7%	3.7%	3.7%	3.7%
Materials, plant and equipment (enhancement infra)	3.4%	3.4%	3.4%	3.4%	3.4%
Materials, plant and equipment (enhancement non-infra)	3.7%	3.7%	3.7%	3.7%	3.7%
Other	2.6%	2.8%	3.0%	3.0%	3.0%

Capex Materials, Plant and Equipment

As mentioned in Section A, the proportions of materials and plant and equipment differs between the different price controls. As each of these sub-categories of cost has differing IPIs, the overall IPI and thus RPE differs between price controls.

SECTION D: REAL PRICE EFFECTS INCLUDED IN WHOLESALE WASTEWATER NETWORK PLUS

Opex costs

Our RPE calculations for Water Recycling Network Plus assume nominal annual changes in the costs of key cost elements for opex which are set out in the table below.

Inputs - nominal cost change - opex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Energy	3.0%	1.8%	0.0%	1.3%	3.1%

Inputs - nominal cost change - opex	2020/21	2021/22	2022/23	2023/24	2024/25
Chemicals	2.5%	2.5%	2.5%	2.5%	2.5%
Materials, plant and equipment	2.5%	2.5%	2.5%	2.5%	2.5%
Other	2.9%	2.9%	2.9%	2.9%	2.9%

Other opex costs

As mentioned in Section A, the IPI and thus RPE for Other opex costs is price control specific. The main elements in other opex for Water Recycling Network Plus are shown below in the table below.

Water Recycling Network Plus	Cost share	Input price change
Business rates	40.0%	3.0%
Service contracts	47.0%	3.6%
Discharge permit fees	13.0%	0.0%
Weighted average PE		2.9%

Business rates are indexed to RPI so we use an input price equivalent to the long-run RPI forecast, which we take to be 3.0%, in line with the OBR's current long term forecast.

We assume that the Service contracts move in line with capex plant and equipment as they represent equipment maintenance contracts.

We assume that the Environment Agency (EA) discharge permit fees will be held at current nominal levels over the forecasting period.

Capex costs

Our RPE calculations for Water Recycling Network Plus assume nominal annual changes in the costs of key cost elements for capex which are set out in the table below.

Inputs - nominal cost change - capex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Materials, plant and equipment (capital maintenance infra)	3.7%	3.7%	3.7%	3.7%	3.7%
Materials, plant and equipment (capital maintenance non-infra)	3.6%	3.6%	3.6%	3.6%	3.6%
Materials, plant and equipment (enhancement infra)	3.6%	3.6%	3.6%	3.6%	3.6%
Materials, plant and equipment (enhancement non-infra)	3.6%	3.6%	3.6%	3.6%	3.6%
Other	2.6%	2.8%	3.0%	3.0%	3.0%

Capex Materials, plant and equipment

As mentioned in Section A, the proportions of materials and plant and equipment differs between the different price controls. As each of these sub-categories of cost has differing IPIs, the overall IPI and thus RPE differs between price controls.

SECTION E: REAL PRICE EFFECTS INCLUDED IN WHOLESALE BIORESOURCES

Opex costs

Our RPE calculations for Water Network Plus assume nominal annual changes in the costs of key cost elements for opex which are set out in the table below.

Inputs - nominal cost change - opex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Energy	3.0%	1.8%	0.0%	1.3%	3.1%
Chemicals	2.5%	2.5%	2.5%	2.5%	2.5%
Materials, plant and equipment	2.5%	2.5%	2.5%	2.5%	2.5%
Other	3.5%	3.5%	3.5%	3.5%	3.5%

Other opex costs

As mentioned in Section A, the IPI and thus RPE for Other opex costs is price control specific. The main elements in other opex for Bioresources are shown below in the table below.

Bioresources	Cost share	Input price change
Business rates	20.0%	3.0%
Service contracts	80.0%	3.6%
Weighted average PE		3.5%

Business rates are indexed to RPI so we use an input price equivalent to the long-run RPI forecast, which we take to be 3.0%, in line with the OBR's current long term forecast.

We assume that the Service Contracts move in line with capex plant and equipment as they represent equipment maintenance contracts.

Capex costs

Our RPE calculations for Bioresources assume nominal annual changes in the costs of key cost elements for capex which are set out in the table below.

Inputs - nominal cost change - capex	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Materials, plant and equipment (capital maintenance infra)	3.7%	3.7%	3.7%	3.7%	3.7%
Materials, plant and equipment (capital maintenance non-infra)	3.6%	3.6%	3.6%	3.6%	3.6%
Materials, plant and equipment enhancement infra)	3.6%	3.6%	3.6%	3.6%	3.6%
Materials, plant and equipment (enhancement non-infra)	3.6%	3.6%	3.6%	3.6%	3.6%
Other	2.6%	2.8%	3.0%	3.0%	3.0%

Capex materials, plant and equipment

As mentioned in Section A, the proportions of materials and plant and equipment differs between the different price controls. As each of these sub-categories of cost has differing IPIs, the overall IPI and thus RPE differs between price controls.

SECTION F: INPUT PRICE PRESSURES INCLUDED IN RESIDENTIAL RETAIL

Our IPI calculations for residential retail assume nominal annual changes in the costs of key cost elements as follows in the table below:

	2020/21	2021/22	2022/23	2023/24	2024/25
Labour	2.6%	2.8%	3.0%	3.0%	3.0%
Doubtful debt	1.0%	1.0%	1.0%	1.0%	1.0%
Other	2.0%	2.0%	2.0%	2.0%	2.0%

The labour cost increases are in line with the assumptions used for wholesale and are set out in section B above.

The assumption behind the doubtful debt assumption is that the level of doubtful debts will fall in real terms over the price control period as a result of the strategies in our plan to assist customers with payment of their bills. 'Other' costs are also assumed to move in line with CPIH.

SECTION G: INPUT PRICE PRESSURES INCLUDED IN BUSINESS RETAIL

We have exited the business market therefore Block G (lines 24 to 25) is not applicable and remains blank.

SECTION H: ASSUMED EFFICIENCY GAINS

The process to develop our botex costs uses benchmarking both within and beyond the sector. Our bottom-up approach is rigorous; starting by using the most recent efficient unit costs as our baseline, then testing through internal challenge groups before cross-checking the outputs against our peer-reviewed econometric models and historic costs.

Had our bottom-up approach yielded costs less efficient than the econometric upper quartile, we would have used our modelled outputs to reduce costs. In fact, our botex costs reflect a £181 million efficiency relative to modelled efficient costs.

Our approach to enhancement costs follows a three step approach:

1. We challenge the need to invest. We also challenge the scope of solutions, and do this component by component, rather than at a site-wide level.
2. We select the most appropriate solution to meet the need. This means we build only when we need to and challenge ourselves to deliver low carbon, innovative solutions.
3. We ensure efficient delivery of the selected solutions

The continuing productivity assumptions we have set for AMP7 are 1.0% per annum for opex and 1.0% per annum for capex. This is higher than the base productivity assumption we built into our PR14 plans (0.7% for capex and 1.0% for opex) and at a rate higher than the UK economy as a whole. These assumptions represent a step change improvement on recent levels of productivity in the sector. In the Water UK report on Total Factor Productivity (TFP) published in September 2017, the quality adjusted TFP from 2009-2017 was estimated to be 0.1% per annum. All of our expenditure in botex and enhancement has been adjusted to take account of our continuing 1% productivity assumption, resulting in a reduction in our estimates equal to £226 million.

Beyond this, we have given ourselves a further efficiency challenge. Although not required by Ofwat's methodology, we are also reducing our costs with a new totex stretch efficiency challenge which further reduces totex by £199 million. Taken together, this produces a total efficiency gain of over £600 million for AMP7. We explain this in more detail in the *Efficiency & Innovation* section of our Plan.

SECTION M: ASSUMED EFFICIENCY GAINS IN BUSINESS RETAIL

We have exited the business market therefore Block M (lines 48 to 49) is not applicable and remains blank.

APP25 - PR14 RECONCILIATION ADJUSTMENTS SUMMARY

Section A: Further 2010-15 reconciliation adjustments

Lines 1 to 6

These are pre-populated cells from the final 2010-15 reconciliation adjustments.

Lines 7 to 12

These lines reflect the outputs of the Revenue adjustments feeder model (PR19-Revenue-adjustments-feeder-model-01l-for-publication) and the RCV adjustment feeder model (PR19-RCV-adjustments-feeder-model-June-2018-update).

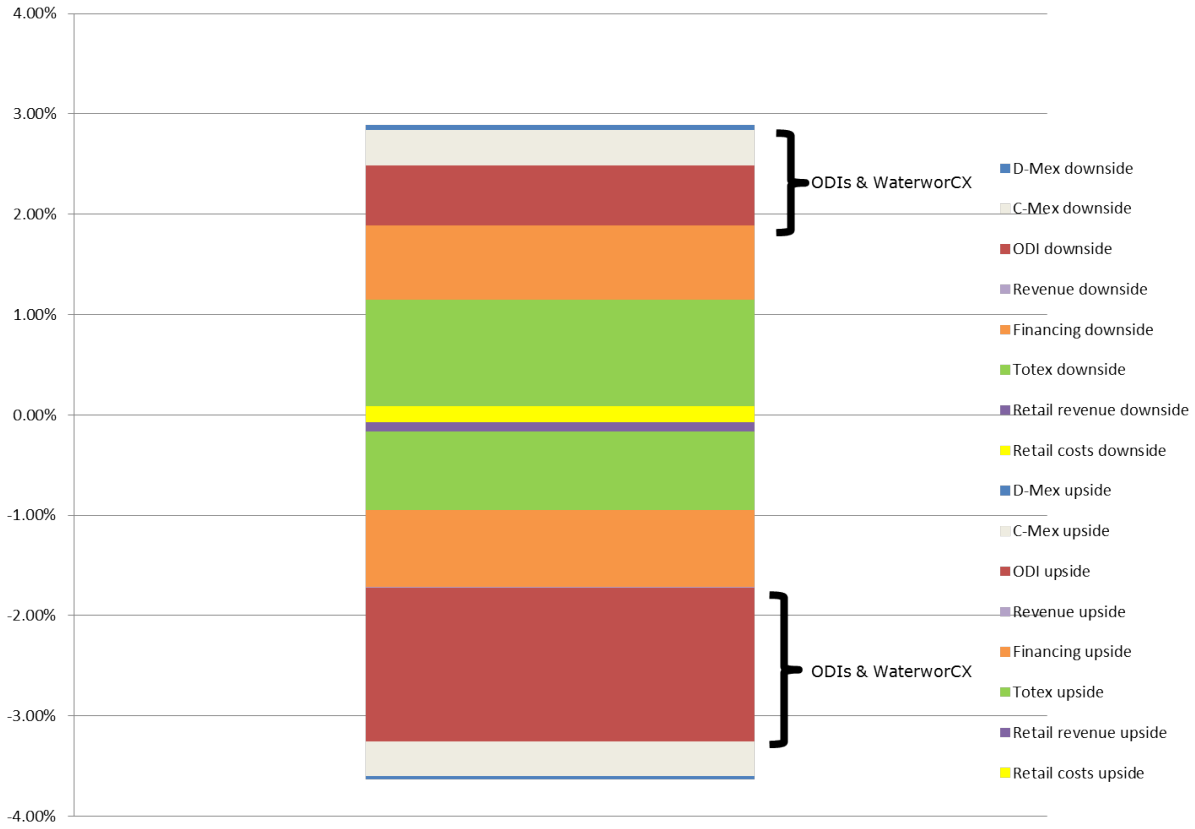
Lines 13 to 24

These lines reflect the outputs of the updated reconciliation models.

APP26 - RORE SCENARIOS

Summary

Figure 8 Appointee RORE impact including ODIs



The potential impact on the appointee RORE of the six Ofwat scenarios we have considered is +2.9% to -3.6%. If the impacts of ODIs and WaterworCX are excluded, then the appointee RORE impact at P10 is +1.9% and at P90 -1.7%.

The outcomes which we have set out in our Business Plan were designed and agreed with our customers so as to meet our obligations and improve our resilience both in the coming AMP and beyond. As such, the RoRE assessment encapsulates the results of our systems approach to resilience.

On both the upside and the downside (P10 and P90 respectively), the three largest impacts on RoRE come from totex cost movements, financing costs and ODIs. In terms of the (both physical and financing) cost movements, mitigation comes through hedging and forward trading where feasible. The P10 and P90 scenarios can be thought of as being net of any mitigating actions. The key driver to the ODI scenarios is the severity of meteorological conditions. While clearly the weather is outside management control, the freeze-thaw incident in early 2018 clearly indicated that Anglian Water both can and does cope with extremes of weather (at least as well as any other water company in the UK). As such, we believe that we have demonstrated our capacity to mitigate weather extremes. The ODI downside can thus also be taken as being net of mitigation.

Introduction

As part of the Business Plan development, we have undertaken detailed scenario analysis, including the scenarios prescribed by App26 in the PR19 Final Methodology. We have taken into account the detailed position set out in Appendix 12 section 3 (Scenario analysis and risk assessment) and in the updated guidance for the final business plan data tables, dated 31 May 2018.

We have modelled the following six of the prescribed scenarios set out in Appendix 12, section 3.3:

- Movements in revenue
- Movements in wholesale totex
- Movements in residential retail botex
- ODI performance excluding C-Mex and D-Mex
- C-Mex and D-Mex (collectively referred to as WaterworCX)
- Financing performance – the cost of new debt.

We have not constructed a scenario for business retail costs as Anglian has exited the business retail market. Neither have we constructed a scenario for water trading as we are not forecasting any such trading during AMP7.

We considered carefully whether there were any other key risks highlighted in our business plan which it was incumbent on us to model in addition to the six specified scenarios. The conclusion we came to was that there are no other material company-specific risks which should be highlighted in further scenarios. Consequently we have neither used the dummy scenarios set out in App26 nor developed any separate bespoke impact models.

The financial impacts of these scenarios are set out in App26. The impacts on the base case for Return on Regulated Equity (RORE) are set out below for each individual scenario and then summarised above in the table summary. These impacts on RORE were computed using the Ofwat financial model.

App26 allows the inclusion of the impact of uncertainty mechanisms within the wholesale totex and residential retail botex impacts.

We have proposed two uncertainty mechanisms. One is a growth uncertainty mechanism to address the impact of customer growth numbers out-turning below our Business Plan expectations. The second is a mechanism to take account of potential slippage in the WINEP programme. The details of this WINEP uncertainty mechanism are set out in full in chapter 4 of our IAP response.

High (P10) and low (P90) scenarios

Tables 1 and 2 below set out our key assumptions for the scenarios set out by Ofwat in its PR19 Methodology. Section 4 in turn sets out the consequences of these assumptions.

Table 1: Key P10 assumptions

Impact	Driver	Assumption
Revenue	New customer numbers	The new customer numbers used in the business plan are those required by WRMP.
	Water trading	No new water trading is expected in AMP7.
	Bioresources revenue	Bioresources wholesale revenue control is set on an average revenue control basis, using tonnes for dry solids (tds) as the volume measure. As customer numbers flex, tds will also change.
Wholesale totex	Salaries	Process:
	Chemicals	i. We assume that the difference between actual RPE and expected RPE is distributed normally.
	Power	
	Plant & equipment	ii. Analysing the last 10 years' RPEs (as defined below in Table 3), we calculated the sample standard deviation for each cost category.

Impact	Driver	Assumption
		iii. We then computed the P10 and P90 values for the distributions using those standard deviations. iv. Finally, using the P10 and P90 values, we computed the impact on overall costs for the coming AMP.
Major totex programmes	eg WRMP, WINEP	WINEP has already been subject to changes in phasing of some elements of between AMP7 and AMP8. In P10 we consider the potential for these elements being delayed.
Residential retail botex	Doubtful debt & debt management	At P10, we expect doubtful debt and debt management costs to outturn below the figures included in the BP. We have assumed that the distribution of possible outturns centred on the figures in the BP is normally distributed with a mean of zero. To estimate the standard deviation, we have computed the standard deviation for doubtful debt and debt management costs from 2009/10 to 2017/18 and used that to compute the P10 and P90 figures.
	Other retail costs	Customer service and metering costs are driven by customer numbers and, in particular, by new customer numbers (new customers are more prone to contact us than long-standing customers).
ODIs other than WaterworCX	Non WaterworCX ODIs	Table 4 sets out the detailed P10 assumptions for all of our financial penalty / reward ODIs. This is a scenario in which our out-performance is most marked on the water side of the business with outperformance against our WRMP assumptions. Whilst we also incorporate wastewater outperformance, this is not as marked as the level of water out-performance. This is on the basis that both the WRMP and WINEP are significantly larger than they have been in the past, and strong outperformance of both is unlikely.
WaterworCX	C-Mex	The P10 assumption is that we achieve the maximum potential reward in each year of the AMP (including the enhanced element for outperformance cross sector service benchmarks).
	D-Mex	The P10 assumption is that we achieve the maximum potential reward in each year of the AMP.
Financing	Cost of new debt	Ofwat has set a real cost of new debt for PR19 of 0.4%. Given the significant uncertainty surrounding the macroeconomic environment consequent on Brexit, estimating P10 and P90 real rates for new debt is even more difficult than in recent Price Reviews. We have concluded that the only satisfactory approach to determining P10 and P90 is through expert judgement. We are using forecasts provided to us by Lloyds Bank, as shown in Graph 1 below.

Table 2: Key P90 assumptions

Impact	Driver	Assumption
Revenue	New customer numbers	To estimate the P90 figure for new customer numbers, we have taken the lowest figure for new connections over the last decade. This was 12,347 in 2009/10. This figure is assumed to be the P90 figure for each year of the AMP.
	Water trading	No new water trading is expected in AMP7. Hence there is no expected down-side risk.
	Bioresources revenue	Bioresources wholesale revenue control is set on an average revenue control basis, using tonnes dry solids (tds) as the volume measure. As customer numbers very, tds will also change. At P90, tds is expected to be lower as a consequence of the reduction in new customer numbers.
Wholesale totex	Salaries Chemicals Power Plant & equipment	Process: i. We assume that the difference between actual RPE compared to expected RPE is distributed normally. ii. Analysing the last 10 years' RPEs (as defined below in Table 3), we calculated the sample standard deviation for each cost category.

Impact	Driver	Assumption
		iii. We then computed the P10 and P90 values for the distributions using those standard deviations. iv. Finally, using the P10 and P90 values, we computed the impact on overall costs for the coming AMP.
Major totex programmes	eg Growth WINEP	We report the impact of the P90 RPE figures on costs here. This impact is then attenuated by the two uncertainty mechanisms: i. As mentioned above, we consider the possibility of customer numbers out-turning below our forecasts. To compute the impact of this scenario, we compute the impact using the proposed growth uncertainty mechanism. ii. WINEP has already been subject to changes in phasing of some elements of between AMP7 and AMP8. In P90 we consider the potential for these elements being delayed. Using the proposed uncertainty mechanism, we then computed the impact of the P10 changes on totex. We have also included in the P90 scenario the possibility that Brexit may lead to a 2% increase in all totex costs across the AMP.
Residential retail botex	Doubtful debt & debt management	At P90, we expect doubtful debt and debt management costs to out-turn above the figures included in the BP. We have assumed that the distribution of possible out-turns centred on the figures in the BP is normally distributed with a mean of zero. To estimate the standard deviation, we have computed the standard deviation for doubtful debt and debt management costs from 2009/10 to 2017/18 and used that to compute the P10 and P90 figures.
	Other retail costs	Customer service and metering costs are driven by customer numbers and in particular by new customer numbers (new customers are more prone to contact us than long-standing customers). At P90, we assume a reduced number of new connections which will reduce customer service and metering costs. These reductions attenuate the increase from the doubtful debt and debt management costs.
ODIs other than WaterworCX	Wholesale ODIs	Table 5 sets out the detailed P90 assumptions for all of our financial penalty / reward ODIs. This is informed by the weather conditions in the most difficult year for Anglian over the last decade – that was 2012-13. We have used this extreme year to observe the covariance between performance commitments, and apply this to the down-side scenario.
WaterworCX	C-Mex	The P90 assumption is that our outturn results in the maximum potential penalty in each year of the AMP. Given our P90 assumption for new customer numbers, the retail revenue assumed at P90 is lower than the BP figure as retail revenue is computed on a cost to serve basis.
	D-Mex	The P90 assumption is that our outturn results in the maximum potential penalty in each year of the AMP. Given our P90 assumption for new customer numbers, grants and contributions (G&C) are assumed at P90 is lower than the BP figure.
Financing	Cost of new debt	Ofwat has set a real cost of new debt for PR19 of 0.4%. Given the significant uncertainty surrounding the macroeconomic environment consequent on Brexit, estimating P10 and P90 real rates for new debt is even more difficult than in recent Price Reviews. We have concluded that the only satisfactory approach to determining P10 and P90 is through expert judgement. We are using forecasts provided to us by Lloyds Bank, as shown in Figure 1 below.

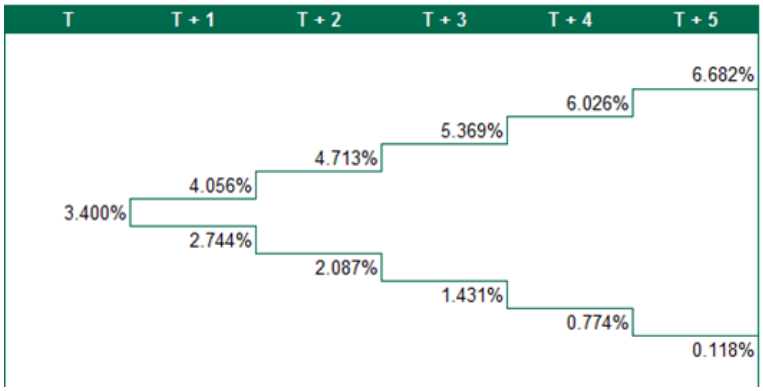
As set out in Tables 1 and 2 above, the upside and downside scenarios for totex are based on the impact of differing RPE impacts. To compute the variability of prices for the key elements of costs in our business, we have used the following data sets from the Office for National Statistics.

Table 3: RPE base data definitions: 2008/2018

Cost category			ONS designation
Salaries	Unit labour cost ONS code DMWN	**Minus**	CPIH ONS code L550
Power	Energy cost ONS code D79U		

Cost category			ONS designation
Chemicals	Chemicals cost ONS code K37Z		
Plant & Equipment	Plant & Eqpt cost ONS code K389		

Figure 9 P10 and P90 estimates of nominal rates over AMP7, taking Ofwat's mandated real 40bp cost of new debt as our starting point (source: Lloyds Bank)

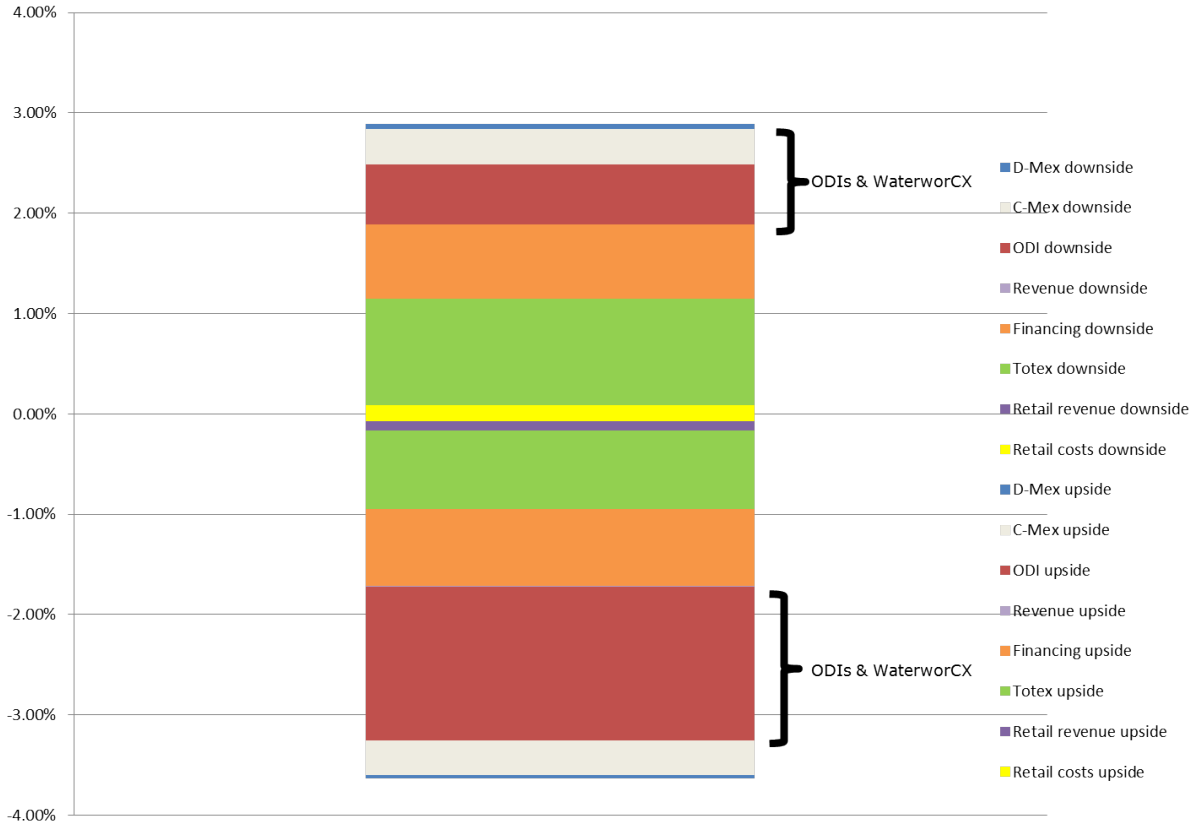


Impacts

The detailed financial impacts of our assumptions as set out in section 3 above can be found in App26. The consequences of these impacts are set out in Table 4, taken from the Ofwat financial model dashboard.

At the appointee level, Table 4 can be shown graphically in Figure 2 below.

Figure 10 Figure 2: RORE impact on appointee



This graph takes into account the corrections made in the financial model and which are explained in the second section of the Financial Model Appendix.

The total potential impact on the appointee RORE of the scenarios we have considered is +2.9% to -3.6%. It can be seen that if the impact of ODIs and WaterworCX are excluded, then the range of RoRE impact is between +1.9% to -1.7% at the appointee level.

Table 4: RORE impacts

Sensi cases	Appointee	WR	WN	WWN	BR
Base case	4.75%	4.38%	4.37%	4.35%	4.35%
Financing upside	0.75%	0.74%	0.77%	0.73%	0.70%
Financing downside	-0.76%	-0.75%	-0.78%	-0.75%	-0.72%
Revenue upside	-	-	-	-	-
Revenue downside	-0.01%	-	-	-	-0.26%
Water trading incentive revenue impact upside	-	-	-	-	-
Water trading incentive revenue impact downside	-	-	-	-	-
Water trading incentive export revenue impact upside	-	-	-	-	-
Water trading incentive export revenue impact downside	-	-	-	-	-
ODI upside	0.59%	2.35%	0.89%	0.35%	-
ODI downside	-1.53%	-	-2.00%	-1.40%	-
Wholesale costs after uncertainty mechanism upside	1.06%	1.24%	0.93%	1.14%	1.03%
Wholesale costs after uncertainty mechanism downside	-0.79%	-1.24%	-0.97%	-0.63%	-1.03%
Water trading export costs impact upside	-	-	-	-	-
Water trading export costs impact downside	-	-	-	-	-
D-Mex upside	0.05%	-	0.08%	0.04%	-
D-Mex downside	-0.03%	-	-0.04%	-0.03%	-
Retail revenue upside	-	-	-	-	-
Retail revenue downside	-0.10%	-	-	-	-
Retail costs upside	0.09%	-	-	-	-
Retail costs downside	-0.07%	-	-	-	-
Retail ODI upside	-				
Retail ODI downside	-				
C-Mex upside	0.36%	-	-	-	-
C-Mex Downside	-0.35%	-	-	-	-

Revenue Impact

Given the mechanism for calculating allowed wholesale revenue for Water Resources, Water Network Plus and Water Recycling Network Plus will be set out in our Final Determination, the only potential impact (up or down) on reported revenues in these price controls will be from changes in customer numbers or the levels of customer usage compared to the forecasts used when setting charges for the relevant charging year/reporting year.

Wholesale charges are published three months prior to the relevant charging year, and therefore are based on forecasts of charge multipliers (customer numbers and demand) that are likely to be on average nine months out of date when published charges are operative. The difference in customer numbers from forecast is therefore unlikely to be material. Forecasting errors on usage could be more material if there is a significant variation in the normal summer/winter weather pattern, but these are infrequent events and therefore generally usage is expected to be stable year on year, and therefore approximate to the forecast when setting charges. Therefore, whilst variations in revenue can arise they are not expected to be material. They can also be characterised

as timing differences, given the Revenue Forecasting Incentive Mechanism ("RFIM") to be applied to each of these controls. The RFIM means that where variations in revenue do arise in any given year (year t) they will be corrected when charges are set for year t+2, or in the PR24 process. For example, an over-recovery of allowed revenue in reporting year 2020/21 of £10 million will be corrected through a reduction of allowed revenue for reporting year 2022/23 (with appropriate financing and indexation adjustments). Given this self-correcting nature of these timing differences, we have made the simplifying assumption that the net impact on revenue arising from any changes in customer numbers or usage is zero.

Bioresources revenue is calculated on an average revenue approach based on cost per ton of dry solids (tds), with the company at risk of revenue changes should sludge production differ from assumed levels. The price control uses the expected unit revenue based on forecast volumes. As tds is dependent on customer numbers, a reduction in customer numbers as a result of lower growth numbers feeds through to lower tds and hence lower revenues. Ofwat has developed a revenue adjustment factor, to apply where outturn sludge volumes differ sufficiently from forecast volumes. The volumes involved in the App26 adjustments do not trigger this adjustment.

From Table 4, the revenue downside for RORE for Bioresources is 0.3%.

From Table 4, the wholesale impact of the Bioresources downside on Appointee Revenue is 0.01%.

Retail revenue is computed on a cost to serve basis. As such, it does flex with customer numbers. Consequently there is a downside impact from lower customer numbers which we compute leads to the 0.10% RORE impact shown in Table 4.

Wholesale totex impact

At the appointee level, the aggregate upside impact of wholesale totex costs is 1.1%. The aggregate downside is 0.8% after taking the attenuation offered by the two uncertainty mechanisms into account. .

The detailed upside impacts for wholesale totex by price control are set out in Table 5 below and the detailed downside impacts for wholesale totex by price control are set out in Table 6 below. The figures shown in Table 6 are net of the impact of the uncertainty mechanisms.

Table 5: P10 Totex RORE impacts

£m	2020/21	2021/22	2022/23	2023/24	2024/25
Water Network + cost impact: P10 (pre tax adjustment)	13.3	20.4	26.7	26.7	28.1
Water resources cost impact: P10 (pre tax adjustment)	2.1	2.1	2.4	2.1	1.9
Wastewater Network + cost impact: P10 (pre tax adjustment)	20.2	31.9	54.7	61.8	40.7
Bioresources cost impact: P10 (pre tax adjustment)	2.5	2.8	2.8	2.6	2.8

Table 6: P90 Totex RORE impacts

£m pa	2020/21	2021/22	2022/23	2023/24	2024/25
Water Network + cost impact: P90 (pre tax adjustment)	-20.1	-24.6	-26.8	-26.7	-21.7
Water resources cost impact: P90 (pre tax adjustment)	-2.1	-2.4	-2.4	-2.1	-1.9
Wastewater Network + cost impact:P90 (pre tax adjustment)	-17.9	-22.7	-23.3	-28.2	-23.8
Bioresources cost impact: P90 (pre tax adjustment)	-2.5	-2.8	-2.8	-2.6	-2.8

Retail botex impact

The P10 retail cost impact is set out in Table 7.

Table 7: P10 retail cost impact

£m	2020/21	2021/22	2022/23	2023/24	2024/25
Customer Services	0.0	0.0	0.0	0.0	0.0
Debt Management	-0.8	-0.8	-0.8	-0.9	-0.9
Doubtful debts	-1.9	-1.9	-2.0	-2.1	-2.2
Meter reading	0.0	0.0	0.0	0.0	0.0
Other operating expenditure	0.0	0.0	0.0	0.0	0.0
Local authority and Cumulo rates	0.0	0.0	0.0	0.0	0.0
Pension deficit repair costs	0.0	0.0	0.0	0.0	0.0
Total operating expenditure (excluding third party services)	-2.7	-2.7	-2.8	-3.0	-3.1

As set out in Table 1, the P10 retail costs benefit from lower doubtful debt and debt management costs.

The P90 retail cost impact is set out in Table 8.

Table 8: P90 retail cost impact

£m	2020/21	2021/22	2022/23	2023/24	2024/25
Customer Services	-0.3	-0.4	-0.6	-0.9	-1.0
Debt Management	0.8	0.8	0.8	0.9	0.9
Doubtful debts	1.9	1.9	2.0	2.1	2.2
Meter reading	0.1	0.1	0.1	0.1	0.2
Other operating expenditure	0.0	0.0	0.0	0.0	0.0
Local authority and Cumulo rates	0.0	0.0	0.0	0.0	0.0
Pension deficit repair costs	0.0	0.0	0.0	0.0	0.0
Total operating expenditure (excluding third party services)	2.4	2.4	2.3	2.2	2.3

As set out in Table 8, the P90 retail costs suffer from higher doubtful debt and debt management costs. This increase is attenuated by lower customer service and meter reading costs as a result of lower customer additions in the P90 scenario.

As can be seen in Table 4, the RORE impact at the appointee level of retail costs is very small for both the P10 and P90 assumptions.

ODI Impact

The impact of the ODIs on the down-side is informed by the weather conditions in the most difficult year for Anglian over the last decade – that was 2012/13. We have used this extreme year to observe the covariance between performance commitments, and apply this to the down-side scenario. On

the upside, we have considered a scenario in which our out-performance is most marked on the water side of the business with outperformance against our WRMP assumptions. Whilst we also incorporate wastewater outperformance, this is not as marked as the level of water out-performance. This is on the basis that both the WRMP and WINEP are significantly larger than they have been in the past, and strong outperformance of both is unlikely.

We have not included potential outperformance for our two vulnerability performance commitments within the ODI impact. Any outperformance for these performance commitments will be ring-fenced and re-invested.

The impact of these assumptions is set out in the following tables.

Table 9 sets out how each individual ODI is categorised for the purposes of the five price controls.

Tables 10 and 11 set out the detailed assumptions for each ODI based upon the upside and downside scenarios. The tables present the upside and downside for this macro scenario and cross refer to the upside and downside for each performance commitment in isolation. The upside and downside for each performance commitment in isolation are shown in the commentary for table App1.

Tables 12 and 13 set out the financial impacts of the individual ODIs.

Tables 14 and 15 summarise the results by price control. These equate to a RORE impact of +0.7% on the upside and -1.6% on the downside.

Table 9: ODI impact by price control

	WR	WN+	WWN+	Bio	Res
Customer Measure of Experience (C-Mex)	0%	0%	0%	0%	100%
Developer Measure of Experience (D-Mex)	0%	56%	44%	0%	0%
Compliance Risk Index (CRI)	0%	100%	0%	0%	0%
Water Supply interruptions	0%	100%	0%	0%	0%
Leakage (Three year average)	0%	100%	0%	0%	0%
Per Capita Consumption	0%	100%	0%	0%	0%
Internal Sewer Flooding	0%	0%	100%	0%	0%
Number of pollution incidents (cat 1-3)	0%	0%	100%	0%	0%
Water Resilience (Risk of severe restrictions in drought)	50%	50%	0%	0%	0%
Wastewater Resilience	0%	0%	100%	0%	0%
Common asset health measure 1: mains bursts per 1,000km	0%	100%	0%	0%	0%
Common asset health measure 2: unplanned outage	0%	100%	0%	0%	0%
Common asset health measure 3: sewer collapses per 1,000km	0%	0%	100%	0%	0%
Common asset health measure 4: Treatment Works Compliance	0%	39%	61%	0%	0%
Percentage of population supplied by single supply system	0%	100%	0%	0%	0%
Properties at risk of persistent low pressure	0%	100%	0%	0%	0%
Number of properties flooded externally	0%	0%	0%	0%	0%
Reactive mains bursts	0%	100%	0%	0%	0%
% of bathing waters attaining excellent status	0%	0%	100%	0%	0%
Abstraction Incentive Mechanism	100%	0%	0%	0%	0%
Vulnerability measure - judgement by ind panel against our strategy	0%	0%	0%	0%	100%
Gap sites and Voids	0%	0%	0%	0%	100%
Operational carbon (% reduction from 2015 baseline)	20%	20%	20%	20%	20%

	WR	WN+	WWN+	Bio	Res
Embodied carbon (% reduction from 2010 baseline)	20%	20%	20%	20%	20%
Compliance Risk Index (1) - WTWs	0%	100%	0%	0%	0%
Compliance Risk Index (2) Supply Points	0%	100%	0%	0%	0%
Compliance Risk Index (3) - Service Reservoirs	0%	100%	0%	0%	0%
Compliance Risk Index (4) - Water Supply Zones	0%	100%	0%	0%	0%
Retailer satisfaction - Based on retailer satisfaction metric that can be benchmarked against the UKCSI score used in CMex	0%	51%	49%	0%	0%
Measure on natural capital	25%	25%	25%	25%	0%
Measure on social capital	20%	20%	20%	20%	20%
WINEP	15%	0%	85%	0%	0%
Water Quality Complaints	0%	100%	0%	0%	0%
Vulnerability measure - #customers on Priority Services Register	0%	100%	0%	0%	0%
Event Risk Index	0%	100%	0%	0%	0%

Table 10: Upside (P10) ODI assumptions

Name	Financial	Type	Max Penalty £m	Max Reward £m	Macro P10	P10 in isolation	Macro P10 Value
Water supply interruptions	Y	Out & under performance	12.51	12.51	3:00 end AMP7, P10 isolation	3.00	3.00
Leakage (Three year average)	Y	Out & under performance	56.37	56.37	Strong outperformance, based on WRMP, P10 in isolation	146.23	146.23
Per Capita Consumption	Y	Out & under performance	13.90	13.90	Outperformance based on WRMP high scenario, same as P10 in isolation	129.16	129.16
Internal Sewer Flooding	Y	Out & under performance	18.07	18.07	50% outperformance from P10 in isolation	1.04	1.18
Number of pollution incidents (cat 1-3)	Y	Out & under performance	22.23	22.23	50% outperformance from P10 in isolation	17.00	18.90
Common asset health measure 2: unplanned outage	Y	Under performance	19.07				
Common asset health measure 3: sewer collapses per 1,000km	Y	Under performance	26.00				
Common asset health measure 4: Treatment Works Compliance	Y	Under performance	24.27				
Percentage of population supplied by single supply system	Y	Out & under performance	13.90	13.90	Based on P10 in isolation, outperform WRMP	9.40	9.40
Properties at risk of persistent low pressure	Y	Out & under performance	20.80	4.73	Based on P10 in isolation	85.00	85.00
Number of properties flooded externally	Y	Out & under performance	27.74	27.74	Outperformance similar to strong performance in 2017/18. Starting at 2993 in 2020/21 improving by 50 incidents per year to 2751 by 2024/25	2339.00	2751.06

Name	Financial	Type	Max Penalty £m	Max Reward £m	Macro P10	P10 in isolation	Macro P10 Value
Reactive mains bursts	Y	Under performance	26.00				
% of bathing waters attaining excellent status	Y	Out & under performance	18.07	18.07	50% outperformance from P10 in isolation	41.00	39.00
Abstraction Incentive Mechanism	Y	Out & under performance	13.90	13.90	P10 in isolation		
Vulnerability measure - judgement by independent panel against our strategy	Y	Out performance		7.25	P10 in isolation	47.00	47.00
Compliance Risk Index (1) - WTWs	Y	Under performance	7.80				
Compliance Risk Index (3) - Service Reservoirs	Y	Under performance	7.80				
Compliance Risk Index (4) - Water Supply Zones	Y	Under performance	7.80				
Retailer satisfaction - Based on retailer satisfaction metric that can be benchmarked against the UKCSI sore used in CMex	Y	Out & under performance	5.00	5.00	P10 in isolation	87.00	87.00
WINEP	Y	Out performance		12.51	Delivery of 50% of outperformance, due to WRMP priority	2103.00	1982.35
Water Quality Complaints	Y	Out & under performance	7.80	7.80	Significant improvements made in recent years but proactive approach needed to maintain performance. P10 same as isolation	0.89	0.89
Vulnerability measure - customers on Priority Services Register (PSR)	Y	Out performance		7.25	P10 in isolation	509,333	509,333

Table 11: Downside (P90) ODI Assumptions

Name	Financial	Type	Max Penalty £m	Max Reward £m	Macro P90 comments	Macro P90 value	P90 in isolation
Water supply interruptions	Y	Out & under performance	12.51	12.51	13:00 as per 2012/13, not as poor as P10 in isolation	13.80	17.00
Leakage (Three year average)	Y	Out & under performance	56.37	56.37	189.14 based on 2012/13 performance, not as poor as P10 in isolation	189.14	211
Per Capita Consumption	Y	Out & under performance	13.90	13.90	136.2 based on maintaining end AMP6 performance, not as bad as p10 in isolation	136.20	140.00
Internal Sewer Flooding	Y	Out & under performance	18.07	18.07	10 based on 2012-13 performance, same as p90 in isolation	2.5	2.5
Number of pollution incidents (cat 1-3)	Y	Out & under performance	22.23	22.23	P10 based on industry LQ, significant improvement since 2012/13 unlikely to return to that level. Same as P90 in isolation.	35	35

Name	Financial	Type	Max Penalty £m	Max Reward £m	Macro P90 comments	Macro P90 value	P90 in isolation
Common asset health measure 2: unplanned outage	Y	Under performance	19.07		2.06% based on industry average + 1 STDEV. Best info available. Same as P90 in isolation	12.06	12.06
Common asset health measure 3: sewer collapses per 1,000km	Y	Under performance	26.00		Based on AMP6 UCL. Same as P90 in isolation	9.1	9.1
Common asset health measure 4: Treatment Works Compliance	Y	Out & under performance	24.27		Based on expert judgement of significant under-performance in industry. Same as P90 in isolation	95	95
Percentage of population supplied by single supply system	Y	Out & under performance	13.90	13.90	Based on maintaining end of AMP6 performance. Same as P90 in isolation.	24.70	24.70
Properties at risk of persistent low pressure	Y	Out & under performance	20.80	4.73	Based on end of AMP5 (better than 2012-13). Same as P90 in isolation.	505	505
Number of properties flooded externally	Y	Out & under performance	27.74	27.74	Based on 2012-13 performance. Same as P90 in isolation	6522	6522
Reactive mains bursts	Y	Under performance	26.00		Based on 2012-13 performance, no penalty (as within dead-band)	3593	5268
% of bathing waters attaining excellent status	Y	Out & Under performance	18.07	18.07	Based on 2013-14 (no data for earlier). Same as P90 in isolation	28	28
Abstraction Incentive Mechanism	Y	Out & Under performance	13.90	13.90	acro P90 based on 0 penalty, as per 2012-13 performance	87	Max penalty
Vulnerability measure - judgement by independent panel against our strategy	Y	Out performance		7.25			
Compliance Risk Index (1) - WTWs	Y	Under performance	7.80		Limited historic data set. Based on p90 in isolation	2.47	2.47
Compliance Risk Index (3) - Service Reservoirs	Y	Under performance	7.80		Limited historic data set. Based on p90 in isolation	0.3	0.3
Compliance Risk Index (4) - Water Supply Zones	Y	Under performance	7.80		Limited historic data set. Based on p90 in isolation	3.69	3.69
Retailer satisfaction – Based on retailer satisfaction metric that can be bench-marked against the UKCSI scored used in CMeX	Y	Out & under performance	5.00	5.00	No historic data. Based on p90 in isolation	59.7	59.7
WINEP	Y	Out performance		12.51			
Water Quality Complaints	Y	Out & under performance	7.80	7.80	Significant improvements made in recent years but proactive approach needed to maintain performance. P90 same as isolation	1.86	1.86
Vulnerability measure - number of customers on Priority Services Register (PSR)	Y	Out performance		7.25			

Table 12: ODI upside (P10) impact

£m	Maximum reward					Upside (P10) scenario				
	2020/21	2021/22	2022/23	2023/24	2024/25	2020/21	2021/22	2022/23	2023/24	2024/25
Customer Measure of Experience (C-Mex)										
Developer Measure of Experience (D-Mex)										
Compliance Risk Index (CRI)										
Water suppy interruptions	2.5	2..	2.5	2.5	2.5	1.4	1.9	2.5	2.5	2.5
Leakage (Three year average)	6.9	9.2	11.5	12.5	13.3	4.7	5.1	5.6	6.4	7.3
Per Capita Consumption	0.0	0.0	0.0	6.9	6.9	0.0	0.0	0.0	0.7	0.7
Internal Sewer Flooding	3.6	3.6	3.6	3.6	3.6	1.8	1.7	1.6	1.5	1.4
Number of pollution incidents (cat 1-3)	4.4	4.4	4.4	4.4	4.4	0.7	0.7	0.7	0.6	0.6
Water Resilience (Risk of severe restrictions in drought)										
Wastewater Resilience										
Common asset health measure 1: mains bursts per 1,000km										
Common asset health measure 2: unplanned outage										
Common asset health measure 3: sewer collapses per 1,000km										
Common asset health measure 4: Treatment Works Compliance										
Percentage of population supplied by single supply system	2.8	2.8	2.8	2.8	2.8	1.0	1.4	2.7	2.8	2.8
Properties at risk of persistent low pressure	1.0	1.0	1.0	1.0	0.7	0.1	0.2	0.2	0.3	0.1
Number of properties flooded externally	5.5	5.5	5.5	5.5	5.5	1.5	1.5	1.5	1.5	1.5
Reactive mains bursts										
% of bathing waters attaining excellent status	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0	0.0	6.9
Abstraction Incentive Mechanism	2.8	2.8	2.8	2.8	2.8	1.9	1.9	1.9	1.9	1.9
Vulnerability measure - judgement by independent panel against our strategy	1.7	1.7	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0
Gap sites and voids										
Operational carbon (% reduction from 2015 baseline)										
Embodied carbon (% reduction from 2010 baseline)										
Compliance Risk Index (1) - WTWs										
Compliance Risk Index (2) - Supply Points*										
Compliance Risk Index (3) - Service Reservoirs										
Compliance Risk Index (4) - Water Supply Zones										

£m	Maximum reward					Upside (P10) scenario				
Retailer satisfaction Based on retailer satisfaction metric that can be benchmarked against the UKCSI score used in CMex	0.0	0.0	1.7	1.7	1.7			0.7	0.6	0.5
Measure on natural capital										
Measure on social capital										
WINEP	3.1	3.1	3.1	3.1	0.0	1.6	1.6	1.6	1.6	0.0
Water Quality Complaints	1.6	1.6	1.6	1.6	1.6	0.4	0.4	0.4	0.4	0.4
Vulnerability measure - number of customers on Priority Services Register (PSR)	1.45	1.45	1.45	1.45	1.45	0	0	0	0	0

Table 13: ODI downside (P90) impact

£m	Maximum penalty					Downside (p90) scenario				
	2020/21	2021/22	2022/23	2023/24	2024/25	2020/21	2021/22	2022/23	2023/24	2024/25
Customer Measure of Experience (C-Mex)										
Developer Measure of Experience (D-Mex)										
Compliance Risk Index (CRI)										
Water supply interruptions	-2.50	-2.50	-2.50	-2.50	-2.50	-2.5	-2.5	-2.5	-2.5	-2.5
Leakage (Three year average)	-10.1	-10.4	-10.8	-11.2	-11.5	-1.9	-2.2	-2.6	-3.0	-3.3
Per Capita Consumption	0.0	0.0	0.0	-6.95	-6.95	0.0	0.0	0.0	-1.9	-2.4
Internal Sewer Flooding	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6
Number of pollution incidents (cat 1-3)	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
Water Resilience (Risk of severe restrictions in drought)										
Wastewater Resilience										
Common asset health measure 1: mains bursts per 1,000km										
Common asset health measure 2: unplanned outage	-3.81	-3.81	-3.81	-3.81	-3.81	-3.8	-3.8	-3.8	-3.8	-3.8
Common asset health measure 3: sewer collapses per 1.000km	-5.19	-5.19	-5.19	-5.19	-5.19	-5.1	-5.1	- 5.1	-5.1	-5.1
Common asset health measure 4: Treatment Works Compliance	-4.9	-4.9	-4.9	-4.9	-4.9	- 4.9	-4.9	-4.9	-4.9	-4.9
Percentage of population supplied by single supply system	-2.8	-2.8	-2.8	-2.8	-2.8	-0.5	-0.5	-0.5	-0.5	-0.5
Properties at risk of persistent low pressure	-4.16	-4.16	-4.16	-4.16	-4.16	-4.2	-4.2	-4.2	-4.2	-4.2
Number of properties flooded externally	-5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Reactive mains bursts	-5.2	-5.2	-5.2	-5.2	-5.2	0.0	0.0	0.0	0.0	0.0
% of bathing waters attaining excellent status	0.0	0.0	0.0	0.0	-18.1	0.0	0.0	0.0	0.0	-18.1
Abstraction Incentive Mechanism	-2.8	-2.8	-2.8	-2.8	-2.8	0.0	0.0	0.0	0.0	0.0
Vulnerability measure - judgement by independent panel against our strategy										
Gap sites and voids										

£m	Maximum penalty					Downside (p90) scenario				
perational carbon (% reduction from 2015 baseline)										
Embodied carbon (% reduction from 2010 baseline)										
Compliance Risk Index (1) - WTWs	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Compliance Risk Index (2) - Supply Points*										
Compliance Risk Index (3) - Service Reservoirs	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Compliance Risk Index (4) - Water Supply Zones	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Retailer satisfaction Based on retailer satisfaction metric that can be benchmarked against the UKCSI score used in CMex	0.0	0.0	-1.7	-1.7	-1.7	0.0	0.0	-1.4	-1.5	-1.6
Measure on natural capital										
Measure on social capital										
WINEP										
Water Quality Complaints	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6

Table 14: Upside (P10) ODI impact by price control

£m	2020/12	2021/22	2022/23	2023/24	2024/25
Water Network Plus	7.3	10.5	15.7	21.0	24.6
Water Resources	2.1	2.1	2.1	2.1	1.9
Water Recycling Network Plus	5.4	5.2	5.5	5.3	10.7
Bioresources	0.0	0.0	0.0	0.0	0.0
Retail	0.0	0.0	0.0	0.0	0.0

Table 15: Downside (P90) ODI impact by price control

£m	2020/12	2021/22	2022/23	2023/24	2024/25
Water Network Plus	-23.5	-25.5	-26.2	-28.5	-29.0
Water Resources	0.0	0.0	0.0	0.0	0.0
Water Recycling Network Plus	-21.2	-21.7	-22.4	-22.5	-40.6
Bioresources	0.0	0.0	0.0	0.0	0.0
Retail	0.0	0.0	0.0	0.0	0.0

C-Mex impact

The P10 and P90 C-Mex impacts are set out in table 16 below in accordance with the assumptions set out in Tables 1 and 2.

Table 16: C-Mex RORE impacts

£m	2020/21	2021/22	2022/23	2023/24	2024/25
C-Mex P10	11.9	11.9	11.9	11.9	11.9
C-Mex P90	-11.5	-11.5	-11.5	-11.5	-11.5

As can be seen from Table 4, the upside RORE impact of C-Mex at the appointee level is 0.4% and the downside is -0.4%.

D-Mex impact

The P10 and P90 D-Mex impacts are set out in Table 17 below in accordance with the assumptions set out in Tables 1 and 2.

Table 17: D-Mex RORE impacts

£m	2020/21	2021/22	2022/23	2023/24	2024/25
D-Mex Water Network+ P10	0.9	1.0	1.0	1.0	0.9
D-Mex Wastewater Network+ P10	0.7	0.7	0.7	0.8	0.9
D-Mex total P10	1.5	1.7	1.7	1.8	1.8
D-Mex Water Network+ P90	-0.5	-0.6	-0.5	-0.5	-0.5
D-Mex Wastewater Network+ P90	-0.5	-0.5	-0.4	-0.5	-0.6
D-Mex total P90	-1.0	-1.0	-1.0	-1.0	-1.1

As can be seen from Table 4, the upside RORE impact of D-Mex at the appointee level is 0.05% and the downside - 0.03%.

Financing impact

The P10 RoRE impact of the new debt financing assumptions set out in Table 1 and Table 3 is shown in Table 18 below.

As can be seen from Table 4, the RORE impact of the P10 and P90 new debt cost financing assumptions is one of the three largest impacts along with totex costs and ODIs. The upside at the appointee level is 0.7% and the downside -0.8%.

Table 18: P10 new debt financing RORE impact

£m	2020/21	2021/22	2022/23	2023/24	2024/25
Water Network+ financing impact: P10 (pre tax adjustment)	0.5	2.6	6.5	17.0	20.0
Water Resources financing impact: P10 (pre tax adjustment)	0.0	0.2	0.5	1.2	1.3
Wastewater Network+ financing impact: P10 (pre tax adjustment)	0.7	3.9	9.3	24.0	28.5
Bioresources financing impact P10 (pre tax adjustment)	0.1	0.3	0.7	1.6	1.9
Total P10	1.3	7.0	17.0	43.7	51.7

Table 19: P90 new debt financing RORE impact

£m	2020/21	2021/22	2022/23	2023/24	2024/25
Water Network+ financing impact: P10 (pre tax adjustment)	-0.5	-2.6	-6.6	-17.3	-20.7
Water Resources financing impact: P10 (pre tax adjustment)	0.0	-0.2	-0.5	-1.2	-1.4
Wastewater Network+ financing impact: P10 (pre tax adjustment)	-0.7	-3.9	-9.4	-24.5	-29.6
Bioresources financing impact P10 (pre tax adjustment)	-0.1	-0.3	-0.7	-1.6	-1.9
Total P10	-1.3	-7.0	-17.1	-44.6	-53.7

APP27 - PR14 RECONCILIATION - FINANCIAL OUTCOME DELIVERY INCENTIVES SUMMARY

Table App27 records a summary of the financial adjustments arising from the actual and forecast performance levels as calculated under the PR14 reconciliation rulebook methodology and reported in our APRs and table App5. The table includes both in-period and end-of-period adjustments with a breakdown by PR14 price control element and a breakdown by the proposed allocation to the PR19 price controls. For end-of-period ODIs, we have not accrued for any outperformance payments or underperformance penalties, as the revenue adjustments from these are not certain. We have provided our best estimates of the total revenue adjustments for AMP6 in the "total to be applied at PR19" column.

Table App27 is consistent with the information submitted in Tables App5 and App6 (except for our in-period leakage ODI, which is explained below).

In accordance with the reporting requirements for App5, we have made no forecast of outperformance payments or underperformance penalties in respect of SIM in table App27. We have reported our SIM forecast revenue adjustment in table R10 line 9.

As our Leakage performance commitment has in-period ODI adjustments we have been careful to ensure that we have only entered the amount that we expect to claim for PR19 (£2.060m, the expected outperformance payment for 2018/19) in line 1 and line 16 as the "total to be applied at PR19". This is an adjustment to our Plan as submitted in September 2018 based on our latest performance information. We expect to claim the adjustments for 2017/18 and 2019/20 in the in-period ODI determinations in December 2018 and December 2020 respectively.

Compared to our business plan we have made changes to our forecasts of performance in 2018/19 and 2019/20 for a number of ODIs. We set out these changes in App5 and the commentary to App5. This version of App27 has been revised in accordance with those revisions in App5.

Lines 34 to 40

These lines reflects the outputs of the Revenue adjustments feeder model (PR19-Revenue-adjustments-feeder-model-01l-for-publication).

Lines 41 to 47

These lines reflect the outputs of the Revenue adjustments feeder model (PR19-Revenue-adjustments-feeder-model-01l-for-publication).

Lines 48 to 52

These lines are zero as we have no ODIs linked to RCV.

APP28 - DEVELOPER SERVICES (WHOLESALE)

App28 reflects the work undertaken to network reinforcement relating to the role of Development Services. It also provides the contribution received for undertaken Development Services work.

In developing App28, the majority of the revenue is aligned with the housing forecast. This is especially true on those costs that have been based on a historic costs. In these occasions, we have determined the historic costs as a proportion of the number of houses connected. This has provided a cost per house equivalent and this has been used to determine future costs based on the forecast number of new houses.

We are forecasting a rise in housing in AMP7 over that forecast in AMP6. This is described in more detail below. For the majority of the lines, there is an increase or decrease in line with the forecast housing numbers.

The data for 2018/19 has been updated to reflect more accurate forecasts for grants and contributions. We have updated the forecast to reflect actual data for the first 10 months and a forecast for the remaining two months.

SECTION A: ACTIVITY FORECASTS - WHOLESALE WATER SERVICE

Line 1: Total number of new residential connections

This line provides detail on the outturn and forecasting of new water household connections within the Anglian Water region. The data has been provided either through:

- **Outturn** - recorded connection numbers in Year 1 to 3 of AMP6.
- **Forecast** - as provided by the Local Planning Authorities in line with the requirements set out in the Water Resource Management Plan (WRMP). This data indicates a large increase in new housing in our region.

We are anticipating a significant increase in the housing connection numbers in AMP7. This data is provided via the Local Planning Authorities and follows the trend to significantly increase the number of new housing built in the UK. This greatly impacts Anglian Water as we are in the region with the most significant amount of growth.

In previous Price Review documents, the Local Planning Authority data was provided as an aim rather than an expectation. However, we are expecting that the Local Planning Authority data is more aligned with the expected housing numbers in AMP7. In making this decision, we have considered the following:

1. **Proof that Local Plans are in place with 5-year definable build programme** - Evidence shows an increasing number of adopted plans. This is backed up by the recent Governmental intervention in failing Local Planning Authorities.
2. **Proof that Planning Applications are being successful and not delayed** - Evidence shows more planning applications are being approved with a significant increase in houses with valid planning since AMP4 and AMP5. This is backed up by the Government's National Planning Policy Framework working in presumption of sustainable growth and an increase in successful appeals to the Secretary of State following the rejection of planning permission at a local level.
3. **Proof that developers are not delaying starting sites with valid planning** - The evidence shows that most sites are delayed due to financial constraints. The Government has therefore put in place their Housing Infrastructure Bill with £2.3 billion in funding to unlock sites that are mothballed or facing severe delays owing to the high costs to provide initial infrastructure, likes roads and utilities. 24 major schemes in the Anglian region have been so far successful in the first round of bidding.
4. **Proof that house build rates are deliverable** - Recent Government research and investment has been to create an industry which is capable of meeting the Government demands for 300,000 new houses per year, which is 40% more than current history. There are two main areas by which house growth can be realised. Firstly, through more land being set aside for housing. However,

this will take time and more likely to impact AMP8 than AMP7. The second option is for houses to be built faster on the sites already identified in the local plans. It is this area that will impact AMP7 and is also the area that the Government appears to be aligned with. For instance, the government's drive to increase the number of SMEs working on large sites alongside Framework that requires the Local Planning Authority to cater for small and large sites to ensure that the SMEs are able to compete in the same market as their larger competitors.

We are therefore planning to meet government aims. This means a large increase in forecast house numbers to be connected to our network compared to the past two AMP periods.

Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
New connections housing - water	20,062	20,322	20,799	25,276	23,379	32,609	36,442	38,182	38,015	35,005

Line 2: Total number of new business connections

This line provides detail on the outturn and forecasting of new water non-household connections within the Anglian Water region.

The data has been provided either through:

- **Outturn** - recorded connection numbers
- **Forecast** - as provided by the Local Planning Authorities in line with the requirements set out in the WRMP

Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
New connections businesses - water	662	921	780	668	694	706	720	730	698	703

SECTION B: INFRASTRUCTURE NETWORK REINFORCEMENT EXPENDITURE FORECASTS – WHOLESALE WATER SERVICE

Line 3: Distribution and trunk mains

Local Planning Authorities have provided Anglian Water with their planned growth sites. Using this data (both polygon and spot data), we have undertaken both 2D and 3D modelling. This has provided us with the data to determine those growth sites and zones that would cause the most detrimental impact to our network.

Modelling software was used to determine the network reinforcement necessary to enable the growth without impacting on the services provided to existing or new customers.

This line provides the data on the distribution and trunk mains required to reinforce the network. This expenditure is upstream of the connection point of proposed detrimental growth points. This data was provided solely through network hydraulic modelling.

Line 4: Pumping and storage networks

Through hydraulic modelling, we were able to determine which growth zones would require additional pumping to achieve the required pressure in the network. A hierarchy was set out that would look at network rejoining prior to considering the need for additional pumping. In AMP6, the costs in this line is provided as part of line 3. In AMP7, we have determine the costs separately.

We are not considering the need for new storage to meet the needs for Developer Driven Growth schemes.

Line 5: Other assets

We are not expecting any other expenditure.

Line 6: Total infrastructure network reinforcement expenditure for new water connections

This is the sum of lines 3, 4 and 5.

SECTION C: GRANTS AND CONTRIBUTIONS RECEIVED – WHOLESALE WATER SERVICE

This section has been assessed in line with the requirements under RAG 4.07.

Line 7: Connection charges (s45)

The contribution from developers for new water connection (communication) is directly attributable to the cost of providing that service. This charge is as defined in RAG 4.07.

The actual charge to the developer is based on the type of connection requested and can vary from premise-type and the size of water main. The charges are provided annually in our Developer Services Charges booklet.

In calculating this element, we have used AMP6 (years 1 to 3) to provide a proportional connection cost per connected house. This cost per house value has been used to forecast costs.

We are forecasting an increase in new houses in AMP7 and as a result the number of new connections will also increase. Contributions are received from developers when they connect to the water main.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 8: Infrastructure charges (s146)

These charges are made to every premise that connects to our infrastructure. The charges are set out in our charges booklet that is published annually. The charging regime changed in April 2018 as a result of the Water Act 2014 changing how contributions are made by third parties towards infrastructure. Since April 2018, the charges reflect two elements:

1. Fixed Zonal Charge. This reflects a single charge and represents the old Infrastructure charge pre-April 2018. It is chargeable should the premise connect or benefit from an existing water network
2. Variable Zonal Charge. This reflects the contribution towards network reinforcement upstream of a development connection point. In calculating this element, we have used a proportional contribution based on the total cost for network reinforcement.

For example, in AMP6 actual expenditure to date is £4,489,652 and actual contributions are £983,998. This represents a 22% contribution towards expenditure. In forecasting years 4 and 5 contribution cost per house, we use the same 22% developer contribution. At the time, we assume that 46,000 houses would contribute 22% of the forecast expenditure of £19 million. This would see an average of £101 per house.

Using a fixed Zonal Charge makes the contribution directly relating to the number of new houses. Should we see an increase in the annual build rate on a single development site (as advocated by Sir Oliver Letwin in his recent Independent review to tackle barriers to building), then there is likelihood that we would forecast more Zonal Charge revenue than forecast expenditure. Should this be forecast to occur, then we would reduce our Zonal Charge accordingly.

We are forecasting an increase in new houses in AMP7 and as a result the number of requests to connect to our infrastructure will also increase. Charges are received from developers when they connect to our infrastructure.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 9: Requisitioned mains (s43, s55 & s56)

This represents the contribution received from third parties for providing a requisitioned main on a single site and is therefore "Site-Specific Work". In this case, site-specific means "work on, or the provision of, water structures or facilities located on a Development as well as work to provide and connect a requested water main on, or in the immediate vicinity of the Development".

Water main requisition charges are calculated by applying a contribution percentage to figures that are based on the approximate cost of carrying out the site-specific work required to satisfy the requisition. For any given scheme, the contribution per development is calculated based on *Contribution = contribution percentage (12%) × cost of Site-Specific Work.*

The 12% contribution level is based on historic requisition expenditure and contributions. In this case, the 12% contributions is equivalent to the actual expenditure versus actual contribution for 500 individual schemes. We are forecasting an increase in new houses in AMP7 and as a result the number of requisitioned mains will also increase. Contributions are received from developers when they requisition a main.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 10: Other contributions (price control)

We receive no "other contributions (price control)". We have based this on the definition provided in RAG 4.07.

Line 11: Diversions (s185)

On some occasions we are required to divert an existing water asset to accommodate the needs of a third party. The third paty contributes towards the cost of moving the assets.

Following Ofwat's clarification on the treatment of diversion contributions, the £19.1 million of contributions forecast to be received from local authorities, highways authorities and private companies to divert water mains in AMP7 have now been shown on line 11. This diversion revenue was previously netted off capital expenditure in table WS1, Line 12.

For AMP6, all water diversion contributions received or forecast have been netted-off capex in alignment with the treatment recorded in the Annual Performance Report.

We assume 100% contribution against all water diversions expenditure and there is no change to the total forecast expenditure or contribution. Net totex remains unchanged as a result of these changes to reporting of diversions.

Line 12: Other contributions (non-price control)

We receive no "other contributions (non-price control)". We have based this on the definition provided in RAG 4.07.

Line 13: Total grants and contributions - wholesale water service

This is the sum of Lines 7 to 12.

SECTION D: INFRASTRUCTURE CHARGES / ADOPTED ASSETS

Line 14: Total value of income offset allowances included within a company's redefined water infrastructure charge

This represents the amount of offset allowances made towards the new pricing regime and against App28, line 8 and offset from the developer contribution towards capital growth schemes. The total offset allowance has been calculated as 78% of the cost for network reinforcement. This value is the total expenditure minus the Developer Contribution of 22%.

Line 15: Total value of any discounts included within a company's redefined water infrastructure charge

We offer a discount to those developers whose houses are able to meet a water consumption standard of less than 100 litres per head per day (or equivalent) of potable water. To date, we have limited requests to consider housing against this lower standard. We have therefore been conservative on the number of houses that successfully have their Fixed Water Zonal Charge waived. We have assumed:

Anticipated number of waived Water Fixed Zonal Charges

Year	Waived Fixed Zonal Charge
2018/19	150 houses
2019/20	200 houses
2020/21	250 houses
2021/22	300 houses
2022/23	350 houses
2023/24	400 houses
2024/25	450 houses

Line 16: Total value of any adopted water assets

We predict that we will not be adopting any Water Assets at nil value.

SECTION E: ACTIVITY FORECASTS – WHOLESALE WASTEWATER SERVICE

Line 17: Residential properties connected during the year

This line provides detail on the outturn and forecasting of new wastewater household connections within the Anglian Water region. The data has been provided either through:

- **Outturn** - recorded connection numbers in years 1 to 3 of AMP6.
- **Forecast** - as provided by the Local Planning Authorities in line with the requirements set out in the WRMP. This data indicates a large increase in new housing in our region.

We are anticipating a significant increase in the housing connection numbers in AMP7. This data is provided via the Local Planning Authorities and follows the trend to significantly increase the number of new housing built in the UK. This greatly impacts Anglian Water as we are in the region with the most significant amount of growth.

In previous Price Review documents, the Local Planning Authority data was provided as an aim rather than an expectation. However, we are expecting that the Local Planning Authority data is more aligned with the expected housing numbers in AMP7. In making this decision, we have considered the following:

1. **Proof that Local Plans are in place with 5-year definable build programme** - Evidence shows an increasing number of adopted plans. This is backed up by the recent Governmental intervention in failing Local Planning Authorities.
2. **Proof that Planning Applications are being successful and not delayed** - Evidence shows more planning applications are being approved with a significant increase in houses with valid planning since AMP4 and AMP5. This is backed up by the Government's National Planning Policy Framework working in presumption of sustainable growth and an increase in successful appeals to the Secretary of State following the rejection of planning permission at a local level.

3. **Proof that developers are not delaying starting sites with valid planning** - The evidence shows that most sites are delayed due to financial constraints. The Government has therefore put in place their Housing Infrastructure Bill with £2.3 billion in funding to unlock sites that are mothballed or facing severe delays owing to the high costs to provide initial infrastructure, likes roads and utilities. 24 major schemes in the Anglian region have been so far successful in the first round of bidding.
4. **Proof that house build rates are deliverable** - Recent Government research and investment has been to create an industry which is capable of meeting the Government demands for 300,000 new houses per year, which is 40% more than current history. There are two main areas by which house growth can be realised. Firstly, through more land being set aside for housing. However, this will take time and more likely to impact AMP8 than AMP7. The second option is for houses to be built faster on the sites already identified in the local plans. It is this area that will impact AMP7 and is also the area that the Government appears to be aligned with. For instance, the Government's drive to increase the number of SMEs working on large sites alongside the large national house builders. This is also reflected in the draft National Planning Policy Framework that requires the Local Planning Authority to cater for small and large sites to ensure that the SMEs are able to compete in the same market as their larger competitors.

We are therefore planning to meet government aims. This means a large increase in the forecast houses numbers to be connected to our network compared to the past two AMP periods.

Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
New connections Water	22,325	24,546	26,712	28,087	27,921	38,258	42,180	43,285	42,955	40,454

Line 18: Business properties connected during the year

This line provides detail on the outturn and forecasting of new wastewater non-household connections within the Anglian Water region.

The data has been provided either through:

- **Outturn** - recorded connection numbers
- **Forecast** - as provided by the Local Planning Authorities in line with the requirements set out in the Water Resource Management Plan.

Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
New connections Water	1,037	973	831	952	948	936	946	931	924	939

SECTION F: INFRASTRUCTURE NETWORK REINFORCEMENT EXPENDITURE FORECASTS – WHOLESALE WASTEWATER SERVICE

In forecasting the expenditure in AMP7, we have used a three stage risk assessment process to assess catchment capacity deficit. All of our sewer catchments are taken through a high-level capacity deficit risk assessment, using an InfoNet tool that assimilates data from our sewerage network database and Geographic Information System (GIS) based growth data. This high-level process provides an initial assessment of the sewer upsizing requirements.

Those at high risk are promoted to a manual intervention process, where the Infonet tool is rerun using GIS growth data with higher confidence. Those at high risk after this are promoted to a full assessment.

This assessment uses hydraulic models to understand the capacity of our sewerage catchments and assess solution options. These includes areas contributing runoff to the sewerage system, pipes, their condition and ancillary structures (pumping stations, tanks overflows etc). The models estimate foul flows, surface runoff and infiltration entering the sewerage system under various hydrological conditions, and route the flows through the sewerage catchment.

Finally, the costs have been calculated using C55, which is our Investment Decisions Optimisation tool and optimising all expenditure schemes through the AMP period. For this table, C55 provides a quantifiable cost per year and has balanced the individual investments (line 19 to line 22) against the overall cost (line 23). For instance, line 19 shows a higher end AMP expenditure compared to line 20 which has a higher cost in mid-AMP7.

Line 19: Foul and combined systems

The hydraulic model has identified those catchments where growth would cause a significant issue with our ability to provide a service to either our existing or future customers.

The length of the new foul systems have been determined based on the level of detriment in our network. New and reinforced sewer lengths have then been tested using modelling software to ensure that they provide a solution to mitigate against the predicted detriment.

Line 20: Surface water only systems

Application of Sustainable Drainage Systems (SuDS) Studio within the model provides an assessment of opportunities for surface water management.

The work in this line represents a step change in our plans for AMP7 over AMP6. It aligns with the need to remove surface water from foul networks rather than simply enlarging foul networks (as has been done historically). It will reduce the risk to customers of sewage flooding and will help resolve the growth need. This approach aligns to the upcoming Sewers for Adoption (version 8), which identifies the need to use Sustainable Urban Drainage (SUDS) to manage growth.

Line 21: Pumping and storage facilities

The hydraulic modelling allows us to determine those developments and catchments where pumping and related storage facilities would be necessary.

The change in forecast data over AMP7 is related to two aspects of our process:

1. The ability to understand where growth is and when it is likely to start
2. New modelling tools which allow us to produce more accurate forecasts of where growth schemes will require a pumping station and when they are likely to be required. We are able to use C55 (our investment management system that optimises capital schemes and expenditure) to optimise the needs.

Line 22: Other assets

This lines provides the costs to undertake detailed hydraulic modelling of strategic growth catchments in AMP7. This data will inform the necessary schemes needed for AMP8.

Line 23: Total infrastructure network reinforcement expenditure for new wastewater connections.

This line provides a summary of Lines 19, 20, 21 and 22.

SECTION G: GRANTS AND CONTRIBUTIONS RECEIVED – WHOLESALE WASTEWATER SERVICE

This table has been assessed following the requirements within RAG 4.07.

Developer contributions are based on the number of houses that are connected and this is mostly reflected in the Zonal Charging process that came into force on April 2018. This sets out a set contribution from Developers for every house connecting into our network. The Zonal Charge contribution is regardless of whether that development site needs network reinforcement. As a consequence, the total AMP7 contribution is reflective of the housing numbers per year in AMP7 rather than the timings of when specific Network Reinforcement schemes are undertaken in AMP7

Line 24: Infrastructure charges receipts (s146)

These charges are made to every premise that connects to our wastewater infrastructure. The charges are set out in our charges booklet that is published annually. From April 2018, the charge reflects two elements:

Fixed Zonal Charge: This reflects a single charge and represents the old "Infrastructure charge" pre-April 2018. The fixed charge is chargeable should a new premise connect or benefit from an existing wastewater network.

Variable Zonal Charge: This reflects the contribution towards Network Reinforcement downstream of a development connection point. In calculating this element, we have used a proportional contribution based on the total cost for Network Reinforcement.

For any given year, the Variable Zonal Charge is calculated based on: Contribution = contribution percentage (21%) × Annual Expenditure on Network Reinforcement

This line is relating to the number of houses per year. As a consequence, the contribution follows the pattern of housing numbers. We are therefore anticipating an increase in Infrastructure Charges in AMP7 compared to AMP6.

For example in AMP6:

Actual expenditure to date is £29,407,330 and actual contribution is £6,088,412. This represents a 21% contribution towards expenditure.

In forecasting years 4 and 5 contribution cost per house, we use the same 21% developer contribution. At the time, we assumed that 50,000 houses would contribute 21% of the forecast expenditure of £24 million. This would see an average of £101.00 per house.

We are forecasting an increase in new houses in AMP7 and as a result the number of infrastructure charges receipts will also increase. Infrastructure charges are received from developers when they connect to our wastewater infrastructure.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 25: Requisitioned sewers (s100)

This line is for new public sewers that have been provided following a s98 requisition.

The charging regime has changed since April 2018 due to Water Act 2014 amended how contributions are made by third parties towards infrastructure. Any costs under the previous contribution regime are now shown in line 24 under the variable charge element.

As a result, we are not forecasting any new offsite requisitions between 2018/19 and 2024/25 and do not expect any sewers will be requisitioned. We anticipate that all network reinforcement schemes, downstream of a developers connection point, will be undertaken through the zonal charge.

We expect that all sewer conveyance schemes upstream of a connection point will be undertaken under s104 Water Industry Act or s30 Anglian Water Authority Act.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 26: Other contributions (price control)

This line includes the fees from developers for enabling new sewerage connections. The fee covers the cost for providing that service. This is as discussed in the Final Methodology Queries and Answers under Reference number 59, published by Ofwat.

In calculating this element, we have used the average cost per property in years 1 to 3 of AMP6. This provides a cost of £106.03 (2017/18) per connected new house. An efficiency / productivity has then be provided across AMP7. The costs given in this line are the average cost for enabling new sewerage connections in any given year multiplied by the forecast number of houses in that year.

We are forecasting an increase in new houses in AMP7 and as a result the number of other contributions (price control) will also increase.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 27: Diversions (s185)

We expect that any sewerage diversion requested will be under a self-lay. We have therefore only included the fees payable for a developer undertaking a diversion.

This is in line with the Final Methodology Queries and Answers under Reference number 59, published by Ofwat.

We are forecasting an increase in new houses in AMP7 and as a result the number of diversions will also increase.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 28: Other contributions (non-price control)

This section only includes the fees for undertaken a self lay under s104 Water Industry Act. This is in line with the Final Methodology Queries and Answers under Reference number 59, published by Ofwat.

In calculating the fees, we have used historic outturn proportioned across the forecasted number of new premises connecting to our network.

We are forecasting an increase in new houses in AMP7 and as a result the number of other contributions (non-price control) will also increase.

The forecast for 2018/19 has been updated to reflect better information as we are further through the report year.

Line 29: Total grants and contributions - wholesale wastewater service

This is taken as the sum of the total grants and contributions and provided inline with our annual performance reporting.

SECTION H: INFRASTRUCTURE CHARGES / ADOPTED ASSETS

Line 30: Total value of income offset allowances included within a company's redefined wastewater infrastructure charge.

This represents the amount of offset allowances made towards the new pricing regime and against Line 18 and 21 in App28.

The total offset allowance has been calculated as *Offset Allowance = 79% of the cost for Network Reinforcement.*

This line is relating to the Total Wastewater Expenditure. This value therefore follow the trend in Wastewater Expenditure (App 28 Table F - line 19 and 21).

Line 31: Total value of any discounts included within a company's redefined water infrastructure charge

Anglian Water offers the option to have the Fixed Zonal Charge element of the Zonal Charge cost (redefined Wastewater Infrastructure Charge) waived for Water Efficient housing. This is solely for those developments who can prove that their new household or non-household premise will be able to meet a minimum of 100 litres per head per day (or equivalent) potable water consumption. To date, we have limited requests to consider housing against this lower standard. We have therefore been conservative on the number of houses that may successfully have their Fixed Water Zonal Charge waived.

We have assumed:

Anticipated number of waived Wastewater Fixed Zonal Charges

Year	Waived Fixed Zonal Charge
2018/19	150 houses
2019/20	200 houses
2020/21	250 houses
2021/22	300 houses
2022/23	350 houses
2023/24	400 houses
2024/25	450 houses

Line 32: Total value of any adopted wastewater assets

Based on historic evidence, we expect that the "site specific" infrastructure will be undertaken using s104 Water Industry Act or s30 Anglian Water Authority Act. This therefore means that all site-specific infrastructure will be acquired at nil cost.

We have used historic value of adopted assets and used a proportional averaging based on the number of historic to forecast new wastewater connections to determine the amount of new wastewater assets that will be adopted at nil cost.

SECTION 1: REVENUE CORRECTION INPUTS – WHOLESALE WATER SERVICES

Line 33: Definition of Band A – wholesale water services

In completing this section, we have not broken the sites down into smaller constituent development sites and kept the expenditure and contribution as a total per house cost. This reflects the process by which Anglian Water calculate Zonal Charging based on a simplified single cost per newly connected house.

Line 34: Number of properties connected during the year

This is the same value as App28 line 1.

Line 35: Number of properties to which contestable services were provided during the year

This is the same value as App28 line 34.

Line 36: Grants and contributions received during the year – for non-contestable works

This is equal to App28 line 8.

Line 37: Grants and contributions received during the year – for contestable works

This is equal to App28 lines 7, 9 and 10.

Line 38: Forecast contestable services expenditure

This is the forecast expenditure each year for non-contestable water infrastructure work.

Line 39: Infrastructure expenditure forecast

This is the forecast expenditure each year for contestable water developer services.

Line 40: Forecast revenue per connection – non-contestable works

This is the forecast revenue per connection for non-contestable water infrastructure works and calculated by App28 line 36 divided by line 34.

Line 41: Forecast revenue per connection – contestable works

This is the forecast revenue per connection for contestable water developer services, within the company's A banding and calculated by App28 line 37 divided by line 35.

SECTION J: REVENUE CORRECTION INPUTS – WHOLESALE WASTEWATER SERVICES

Line 78: Definition of Band A - wholesale wastewater services

In completing this section, we have not broken the sites down into smaller constituent development sites and kept the expenditure and contribution as a total per house cost. This reflects the process by which we calculate Zonal Charging based on a simplified single cost per newly connected house.

Line 79: Number of properties connected during the year

This is the same value as App28 line 17.

Line 80: Number of properties to which contestable services were provided during the year

This is the same value as App28 line 79.

Line 81: Grants and contributions received during the year – for non-contestable works

This is equal to App 28 Lines 24, 26, and 27.

Line 82: Grants and contributions received during the year – for contestable works

This is equal to App 28 line 25. This is for requisitioned sewers.

Line 83: Forecast contestable services expenditure

This is the forecast expenditure each year for non-contestable water infrastructure work.

Line 84: Infrastructure expenditure forecast

This is the forecast expenditure each year for contestable water developer services.

Line 85: Forecast revenue per connection – non-contestable works

This is the forecast revenue per connection for non-contestable water infrastructure works and calculated by App28 line 81 divided by line 79.

Line 86: Forecast revenue per connection – contestable works

This is the forecast revenue per connection for contestable water developer services, within the company's A banding and calculated by App28 line 82 divided by line 80.

APP29 - WHOLESALE TAX

SECTION A: BROUGHT FORWARD CAPITAL ALLOWANCE POOL - GENERAL 18%

The opening capital allowance pools reflect the position at 31 March 2017 as per latest submitted tax computation. From this we have deducted non-appointed capital additions and then included capital additions in the years ended 31 March 2018, and forecast to arise in the years ended 31 March 2019 and 31 March 2020 as per our latest financial forecasts. We have then deducted any capital allowances forecast to be claimed in the same three years to arrive at our opening pool balance at 1 April 2020.

We have allocated the opening pool balance across the four price controls in line with RCVs that have been updated for our IAP Response.

We have previously commented to Ofwat that we do not believe that this is the correct way to calculate the opening pool balances. The correct way, as confirmed by Deloitte, and consistent with our previous price determinations would be to use a lower "notional" pool. This notional pool should reduce the opening balance, as calculated above, by the effect of capital allowances disclaimers made in earlier periods to utilise losses made elsewhere in the group.

This would treat the regulated company on a stand-alone basis and ignore the impact of group tax planning measures.

The method required by Ofwat will result in our customers receiving the benefit of capital allowances twice.

SECTION B: BROUGHT FORWARD CAPITAL ALLOWANCE POOL - LONGLIFE 6%

The opening capital allowance pools reflect the position at 31 March 2017 as per the latest submitted tax computation. From this we have deducted non-appointed capital additions and then included capital additions in the year ended 31 March 2018, and forecast to arise in the years ended 31 March 2019 and 31 March 2020 as per our latest financial forecasts. We have then deducted any capital allowances forecast to be claimed in the same three years to arrive at our opening pool balance at 1 April 2020.

We have deducted allowances at the rate of 8% up to 31 March 2019 and then the new rate of 6% from 1 April 2019.

We have allocated the opening pool balance across the four price controls in line with the RCVs that have been updated for our IAP Response.

SECTION C: BOUGHT FORWARD CAPITAL ALLOWANCE POOL - STRUCTURES AND BUILDINGS 2%

Structures and Buildings allowances were only introduced from October 2018. We have therefore included additions forecast to arise in the years ended 31 March 2019 and 31 March 2020 as per our latest financial forecasts. We have then deducted any capital allowances forecast to be claimed in the same two years to arrive at our opening pool balance at 1 April 2020.

The opening balance has then been allocated across the four price controls in the proportion of the RCV in each price control.

SECTION D: NEW CAPITAL EXPENDITURE

We have carried out a tax analysis of forecast capital expenditure during AMP7. This has been performed for each price control, and we have analysed the total forecast expenditure for each year between the general pool, the longlife pool, the structures and buildings pool, expenditure not qualifying for capital allowances and expenditure qualifying for a tax allowance based on depreciation. Where grants and contributions are capital for tax purposes, these are treated as deductions from the longlife 8% pool. We have reflected these capital grants and contributions in the percentage allowance.

SECTION E: DISALLOWABLE EXPENDITURE

Lines 54 to 58: P&L expenditure relating to renewals not allowable as a deduction from taxable trading profits

We have estimated the level of disallowable expenditure each year based upon historical results and have allocated this between four price controls in line with RCVs that have been updated in our IAP Response.

Lines 59 to 63: P&L expenditure not allowable as a deduction from taxable trading profits

We do not have any profit and loss expenditure relating to renewals not allowable as a deduction from taxable trading profits.

Lines 64 to 68: Change in general provisions

The only general provision we make is for bad debts less than one year old. We are expecting the overall level of bad debts to reduce over the AMP but we do not expect this to have a material tax effect and so have entered zeros in these lines.

SECTION F: ALLOWABLE EXPENDITURE

Lines 69 to 73: Allowable depreciation on capitalised revenue expenditure (infra and non-infra)

We have forecast the level of allowable depreciation on deferred revenue each year based on the level of forecast Capex and the amount of this treated as qualifying for a tax deduction based on depreciation. We have calculated individual amounts for each price control.

Lines 74 to 78: Finance lease depreciation

The requirement is to include all leases that were previously treated as operating leases but will now be finance leases under IFRS 16. We have included the forecast depreciation on the two existing pre-IFRS 16 leases and have calculated the increased depreciation that will arise under IFRS 16.

SECTION G: OTHER TAXABLE INCOME

Lines 79 to 83: Grants and contributions taxable on receipt

As discussed in App11, line 7, we have prepared this IAP Response on the assumption that IFRS15 has not been adopted. Therefore all grants and contributions are deferred and then taxed over the life of the assets. Grants and contributions treated as capital for tax purposes are deducted from the longlife 8% / 6% pool and those treated as Income for tax purposes are taxed as they are depreciated. No grants and contributions are taxed as they are received.

Lines 84 to 88: Amortisation on grants and contributions

We have forecast the level of taxable amortisation on grants and contributions that are Income for tax purposes. We have allocated this between the four price controls in line with RCVs that have been updated for our IAP Response.

Lines 89 to 93: Other adjustments to taxable profits

The other major adjustment on our tax computation is a deduction for amortisation of intangible assets. The Ofwat model does not distinguish between tangible and intangible assets purchased in AMP7 and expects us to prepare our capital allowance analysis in Section C above on the total assets (see also our further commentary to App11, line 4). In AMP6 we have been recognising intangible assets in our regulatory and statutory accounts and at March 2017 they included a balance of intangible assets which is expected to increase by March 2020. This balance of AMP6

intangible assets will amortise over AMP7 and this amortisation will be tax deductible. We have therefore included the forecast amortisation on this March 2020 balance as it is expected to arise in each year of AMP7. We have split the total in line with RCVs that have been updated for our IAP Response.

SECTION H: BROUGHT FORWARD LOSSES

We have no losses brought forward.

SECTION I: STATUTORY CORPORATION TAX RATE

Line 99: Statutory corporation tax rate

We have used the latest announced corporation tax rate of 17% from 1 April 2020.

APP30 - VOID PROPERTIES

Line 1: Number of void properties - residential

The table includes revised void numbers for the years ended 31 March 2016 and 2017 as compared to the figures set out in table 4A of the respective Annual Performance Report (APR). During our internal assurance process in preparing the 2017/18 APR publication it became apparent that the prior year numbers had not been shown on a basis consistent with the RAGs. As a consequence, wastewater only premises had been omitted from the figures and non-chargeable properties had been included. The revised figures for the prior year were set out in a supplementary table included in the 2017/18 APR.

The table below sets out a reconciliation from the figures as published in the APR for the first two years of AMP6 and the figures included in the data table in line 1.

			Current year		
Line description		Units 000s	Unmeasured	Measured	Total
	For the year ended 31 March 2017				
1	Number of void households - published		18.338	58.849	77.187
	Exclude non-chargeable water properties		(0.390)	(1.665)	(2.055)
	Include wastewater only properties		10.413	18.821	29.234
	Number of void households - revised		**28.361**	**76.005**	**104.366**
	For the year ended 31 March 2016				
1	Number of void households - published		18.607	53.200	71.807
	Exclude non-chargeable water properties		(0.345)	(1.108)	(1.453)
	Include wastewater only properties		9.970	16.811	26.781
	Number of void households - revised		**28.232**	**68.903**	**97.135**

The same adjustment to exclude non-chargeable properties applies to the wastewater void properties set out in table 12, "WW Properties and Population" of the 2016/17 Information request tables submitted in July 2017.

The table below sets out a reconciliation from the figures as published in the information request for the relevant years and the figures included in the data table:

Line description		Units 000s	2012/13	2013/14	2014/15	2015/16	2016/17
1	Number of voids - published		97.039	98.920	101.113	101.616	109.210
	Exclude non-chargeable wastewater properties		(1.617)	(1.765)	(1.526)	(1.688)	(2.206)
	Number of voids - revised		**95.422**	**97.155**	**99.587**	**99.928**	**107.004**

The historic void levels include household voids directly billed by Anglian Water and those billed by other water companies on our behalf, including Cambridge Water, Affinity Water, Thames Water and Severn Trent. The forecast assumes void levels for the other water companies remain static over the AMP.

For those properties that we bill directly, the forecast factors in other expected changes, such as predicted growth (as per table WS3 and WWS3), movement from unmetered to metered, reductions evidenced on the latest void reports (June 2018), reductions due to data cleansing activities, movement from household to non-household and anticipated changes due to future void management activities.

Line 2: Number of void properties - business

Source of Data

The non-household vacant premises base figure at 31 March 2018 (16,162) has been taken from a report (MDS Water and Sewerage SPIDS) produced by the Central Market Operating System (CMOS) on 21 February 2018. The number of vacant premises on this date was 11,665. The occupancy status of a property is controlled by the appointed Retailer through market transactions carried out in CMOS. We do not have access to alter this data as we are the Wholesaler.

We have carried out an analysis of our voids records and as of February 2018 there were 4,497 properties that may potentially be eligible for the non-household market. By their nature it is difficult to ascertain if these properties are in fact non-household; however, we have included this in the baseline figures for non-household. We are undertaking a programme of work to establish eligibility and vacancy for these premises. Where identified that they are eligible for the non-household market we will add these to CMOS.

Data Analysis and Current Trends

Analysis of the vacant data available in CMOS shows that the number of vacant premises in our area has increased by circa 30% over the period April 2017 to February 2018. This trend is also consistent with the market data which is showing an overall increase in non-household vacant premises.

There are a number of factors driving this increase which includes the addition of new SPIDS to the market by us as the Wholesaler. It would also appear that an increasing number of market vacants are as a result of Retailers allocating a vacant status to premises switched to them under the GAP site process. It is expected that this area will be a future focus area across the market over the next two years. As a result we expect the number of additional vacant properties to decrease.

Based on the above we have assumed the number of vacant properties will increase by 1% each year until March 2020.

Future Performance and Impacts

It is anticipated that the non-household market will focus on improving this area and that a number of initiatives will be introduced to assess and reduce incorrectly categorised vacant properties across the market.

It is also anticipated that Retailers will focus on reducing their vacant properties to increase billing revenues and lower their cost base.

We are currently planning to support the reduction of vacant properties through a number of initiatives as follows:

- Further analysis of vacant premises data recorded in CMOS to identify potential occupancy issues with follow-up notification to Retailers. We have engaged a third party agency who specialise in this type of work and have a track record of identifying occupied premises. Phase one of this project has been completed with details passed to the relevant Retailers
- Continuation of regular engagement with Retailers to understand their plans and priorities for tackling vacants and how we can support them
- Undertake site visits to verify premises, confirm occupancy and investigate metered consumption.

Based on the above we have assumed that the overall number of vacants will start to decrease from April 2020 by 1% each year.

APP31 - PAST PERFORMANCE

Table App31 is not required to be submitted as part of our IAP Response.

APP32 - WEIGHTED AVERAGE COST OF CAPITAL FOR THE APPOINTEE

SECTION A: APPOINTEE WACC - BASED ON ASSUMED NOTIONAL STRUCTURE (NOMINAL)

This is in line with Ofwat assumptions laid out in the methodology for AMP7. For AMP8, we are assuming the same WACC as AMP7, reflecting a lower cost of embedded debt, compensated by an increase in the risk free rate (and corresponding Total Market Return, leaving Equity Risk Premium unchanged).

SECTION B: APPOINTEE WACC - BASED ON COMPANY'S ACTUAL STRUCTURE (NOMINAL)

This is in line with Ofwat assumptions laid out in the methodology with actuals for lines 21, 31, 33. For AMP8, we are reflecting a lower cost of embedded debt, compensated by an increase in the risk free rate (and corresponding Total Market Return, leaving Equity Risk Premium unchanged) as per the Notional company.

APP33 - WHOLESALE OPERATING LEASES RECLASSIFIED UNDER IFRS16

Sections A to D: Water resources, Water network plus, Bioresources and Wastewater network plus

The leases analysed within sections A to D relate to properties and vehicles, all of which are existing operating leases with no new leases planned to be taken out between 1 April 2018 and 31 March 2020. These costs have been split between price controls based on the existing lease cost split in our business plan.

The discount rate used is 2.8% which is the applicable wholesale cost of capital on a blended 50:50 RPI / CPIH basis as prescribed by Ofwat's information notice.

The difference used in the numbers calculated in App33 and that used in calculating the net debt in App20 primarily relate to the discount rate used, which for App20, was the current marginal borrowing rate of 2.625% as prescribed by IFRS 16 and the 2.8% defined by Ofwat. The appointee net debt also includes an element of costs allocated to the retail business which is not included in App33 as this is a wholesale table.

Section E: Dummy

We have maintained our consistency throughout this table with regards to the dummy cells even though validation rule suggests - All inputs should be positive, or if not relevant, put zero. Therefore Section E in App33 are not populated.

Section F: Summary of IFRS16 impact

Line 107: Opex value of leases reclassified under IFRS16 included in other operating expenditure

The difference between the cash cost and the operating cost value of leases is solely due to the capitalisation of certain property leases which are therefore included within the cash cost but not the operating cost.

Line 108: Opex value of existing operating leases in other operating expenditure

There are no existing operating leases that will not be reclassified under IFRS 16.

Line 110: Capex value of leases reclassified under IFRS16 included in other operating expenditure

The figure of £24.902 million for 2019/20 is the total value of the operating leases reclassified on adoption of IFRS 16 on 1 April 2019. The figure of £1.518 million for 2021/22 is the renewal of vehicle leases on expiration of previous leases held; the lease payments in relation to the renewal of the leases are not reflected in sections A to D as per Ofwat guidance. Other than the renewal of the vehicle leases in 2021/22, there are no further planned leases to be taken out during the period.

Line 111: Balance of finance leases reclassified under IFRS16 included on balance sheet

The value included in the 2018/19 column is the opening value under IFRS at 1 April 2019 as stated in the table guidance; this is therefore equal to the amount for 2019/20 in line 110. The remainder of the line is calculated as the balance carried forward less depreciation plus any additions. Depreciation is calculated on a straight line basis over the length of the lease.

Line 112: Balance of existing finance leases included on balance sheet

Existing finance leases primarily relate to operational assets such as plant and equipment and associated construction costs.