


	AB	C	D	E	F	G	H														
1	<b>Cover</b>																				
3	<b>Model name:</b>	<b>PR19 Bill Movement Model</b>																			
4	<b>Version number:</b>	#N/A																			
5	<b>Filename:</b>	#N/A																			
6	<b>Date:</b>	10 Jul 2018																			
7	<b>Author:</b>	Ofwat																			
8	<b>Author contact information:</b>	<a href="mailto:pr19@ofwat.gsi.gov.uk">pr19@ofwat.gsi.gov.uk</a>																			
11	<b>Summary of model:</b>	<p>The model calculates the movement in average residential bill (combined bill for WaSCs).                      The model draws data automatically from the PR14 and PR19 models.                      This is the model referred to in Table 2.1 of the 'Company business plan presentation pro-forma'                      Follow link to pro-forma &gt;&gt; <a href="https://www.ofwat.gov.uk/publication/company-business-plan-presentation-pro-forma/">https://www.ofwat.gov.uk/publication/company-business-plan-presentation-pro-forma/</a></p>																			
16	<b>Known limitations:</b>	<p>These are listed below:</p> <table border="1"> <thead> <tr> <th>Issue</th> <th>Details</th> <th>Model link</th> </tr> </thead> <tbody> <tr> <td>Merged Companies</td> <td>The model draws inputs automatically for a single PR14 model and a single PR19 model. For companies that have merged since PR14 the model will not draw inputs automatically from multiple PR14 models. Merged companies will need to calculate appropriate PR14 values outside of this model and then enter them in the Override column on the InpAct sheet.</td> <td><a href="#">Override column</a></td> </tr> </tbody> </table>						Issue	Details	Model link	Merged Companies	The model draws inputs automatically for a single PR14 model and a single PR19 model. For companies that have merged since PR14 the model will not draw inputs automatically from multiple PR14 models. Merged companies will need to calculate appropriate PR14 values outside of this model and then enter them in the Override column on the InpAct sheet.	<a href="#">Override column</a>								
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21		<p>The model has been subject to internal Ofwat quality assurance.                      The model is not a policy statement.                      Users should refer to the "Delivering Water 2020: Our final methodology for the 2019 price review" for information on proposed policy.</p>																			
25	<b>Feedback:</b>	<p>We would welcome feedback on the PR19 bill movement model. Please send any feedback to the following email address.  <a href="mailto:pr19@ofwat.gsi.gov.uk">pr19@ofwat.gsi.gov.uk</a></p>																			
28	<b>Error check status:</b>	<table border="1"> <tr> <td style="background-color: #00FF00;">-</td> <td>No error checks</td> </tr> <tr> <td style="background-color: #FFA500;">93</td> <td>Output changes</td> </tr> </table>					-	No error checks	93	Output changes											
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31	<b>Instructions:</b>	<p>A model 'User guide' is present in the model to help the user in operating the model.                      Follow link &gt;&gt; <a href="#">Goto User Guide</a></p>																			
34	<b>Change log:</b>	<table border="1"> <thead> <tr> <th>Change</th> <th>Details</th> <th>Model link</th> </tr> </thead> <tbody> <tr> <td>Wastewater Network RCV additions excluded from total</td> <td>The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.</td> <td><a href="#">WWN RCV additions plus indexation</a></td> </tr> <tr> <td>Bioresources RCV additions excluded from total</td> <td>The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.</td> <td><a href="#">BR RCV additions plus indexation</a></td> </tr> <tr> <td>Wastewater asset life linked to water asset life</td> <td>The 'RCV Additions: Average Asset Life' for wastewater was incorrectly linked to the average asset life for water on the InpActive sheet.</td> <td><a href="#">RCV Additions: Average Asset Life - Wastewater</a></td> </tr> <tr> <td>InpAct sheet relinked to latest financial model</td> <td>The PR19 financial model has been revised since the Bill Waterfall model was published. Some lines have moved in the financial model so the InpAct sheet of the Waterfall model has been re-linked to the correct lines in the latest financial model (version 14h).</td> <td><a href="#">InpAct</a></td> </tr> </tbody> </table>					Change	Details	Model link	Wastewater Network RCV additions excluded from total	The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.	<a href="#">WWN RCV additions plus indexation</a>	Bioresources RCV additions excluded from total	The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.	<a href="#">BR RCV additions plus indexation</a>	Wastewater asset life linked to water asset life	The 'RCV Additions: Average Asset Life' for wastewater was incorrectly linked to the average asset life for water on the InpActive sheet.	<a href="#">RCV Additions: Average Asset Life - Wastewater</a>	InpAct sheet relinked to latest financial model	The PR19 financial model has been revised since the Bill Waterfall model was published. Some lines have moved in the financial model so the InpAct sheet of the Waterfall model has been re-linked to the correct lines in the latest financial model (version 14h).	<a href="#">InpAct</a>
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42	<b>End of sheet</b>																				

# User Guide

## INTRODUCTION

This model will create a waterfall chart showing the main components causing the movement in bills between PR14 and PF

### INITIAL SET UP

The model will automatically pick up the correct input fields when you link it to the water company financial models.

On first use of the model you will need to link to both the PR14 and PR19 financial models for your company.

- Step 1 - On the Excel menu click DATA / Edit Links
- Step 2 - Select the link to the PR19 model and click "Change Source"
- Step 3 - Navigate to the correct PR19 financial model and select it.
- Step 4 - Select the link to the PR14 model and click "Change Source"
- Step 5 - Navigate to the correct PR14 financial model and select it
- Step 6 - On the InpC sheet change cell F34 to either WaSC or WoC, as appropriate. The current value is shown below, follow the link [WaSC](#)
- Step 7 - **Recalculate the model. Press Ctrl + Alt + F9**

### NAVIGATION

In order to navigate through the model the following key strokes will prove useful:

- To go to a sheet or row select a blue font cell and then either press CTRL+ [ or double click
- To return To the last position press F5 + Enter
- In accordance with best practice, the model is saved with a "Manual Calculation" setting. To ensure a full recalculation pre

## HOW TO SAVE A PDF COPY OF THE WATERFALL CHART

- Step 1 - To save the 'Waterfall' chart in PDF format, press button "Save as PDF"
- Step 2 - In the dialog box, "Enter sheet name", type Waterfall
- Step 3 - In the dialog box, "Save As" change the file name if required
- Step 4 - Press "Save" to save a Pdf copy of the sheet

## HOW TO STORE TRACK IN TRACK SHEET

### USING MACRO

**To store Track in the Track sheet using the macro, follow the steps below:**

- Step 1 - Go to the Track sheet and press the "Store Track" button to save the track for a new case  
[Store Track](#)
- Step 2 - A dialog box "Enter the label for the new track column" will appear, type the new track label (for example: "version 17r"), the
- Step 3 - A dialog box "Enter the comment for the new track" will appear, write a brief description of the change. The description will
- Step 4 - Press enter, a new track column will appear before the last stored track
- Step 5 - Review the difference between stored cases and active case (col H) by selecting the stored case in cell H6.

### MANUAL METHOD

**To store Track in the Track sheet manually, follow the steps below:**

- Step 1 - Select the column by pressing Ctrl + Spacebar and Copy (Ctrl + C). Then insert a new column after the last stored column
- Step 2 - Select the newly inserted column (Ctrl + Spacebar) and delete the previously stored values from this column by pressing D
- Step 3 - Go to active track column (H column). Select the range from H6 till 'do not delete row - range end' row and Copy (Ctrl + C)
- Step 4 - Paste the selected values (Alt E, S, V) in newly inserted column
- Step 5 - Update 'New track name' in row 6 of newly inserted column. Then select 'New track name' from the dropdown list present in
- Step 6 - Review the difference between stored cases and active case (col H) by selecting the stored case in cell H6.



**End of sheet**

## Map & Key

### TABLE OF CONTENTS

Table of Contents				
DOCUMENTATION	MODEL INPUTS	MODEL CALCULATIONS	MODEL OUTPUTS	MODEL QA
<b>Cover</b> Model cover sheet	<b>InpC</b> Constants	<b>RCV</b> Change due to RCV, WACC and run-off	<b>GraphData</b> Table of bill movements	<b>Track</b> Model changes and track records
<b>User Guide</b> Explanation of setup and macros	<b>InpAct</b> All inputs to be flowed into model	<b>Totex</b> Change due to PAYG Totex and rate	<b>Waterfall</b> Graph of bill movements	<b>Check</b> Checks
<b>Map &amp; Key</b> ToC and key to formatting		<b>Wholesale</b> Change due to other wholesale items		
<b>Model Design</b> Flow chart, model assumptions and key calculations		<b>Reconciliation</b> Change due to reconciliations items		
		<b>Retail</b> Change due to cost to serve		
		<b>Customers</b> Change due to customer No.s		
		<b>Summary_Calc</b> Convert from £m to £ per custome		

### SHEET TABS

Light Yellow	Input sheets
No colour (default Excel tab colour)	Calculation and documentation sheets
Pale Blue	Key output sheets
Turquoise	Quality control sheets
Yellow	To be completed, temporary, restructured, or deleted

### COLOUR

<b>Font colour only</b>	
Blue font	Imported from another sheet
Red font	Exported to another sheet (except from input sheets)
Black font	Within sheet link or calculation
<b>Font + shade combinations</b>	
Black font + Light Yellow shade	Inputs
Black font + Light Grey shade on entire row	Within-worksheet counter-flow
Blue font + Light Grey shade on entire row	Between-worksheet counter-flow
Empty Cell with Light Grey shade	Empty cells being deliberately referenced
<b>Other</b>	
Black font + Pale Blue shade on entire row	Section separator
Light Turquoise shade	Stored/dead/hard coded outputs
Tan shade	Pre-model time line actuals
Yellow shade	Work in progress / temporary
Lime shade	Values or logic to be reviewed
<b>Error checks &amp; alerts</b>	
Green shade	OK
Red shade	Error
Gold shade	Alert

### ABBREVIATIONS

£	Great Britain Pound
BEG	Beginning
BR	Bio resources
CALC	Calculation
CTS	Cost to serve
m	Million
na	Not available / applicable
Opex	Operating expenditure
PAYG	Pay as you go
POS	Positive
RCV	Regulatory capital value
Totex	Total expenditure
WACC	Weighted average cost of capital
WaSC	Water and Sewerage company
WN	Water network
WoC	Water only company
WR	Water resources
WWN	Waste water network

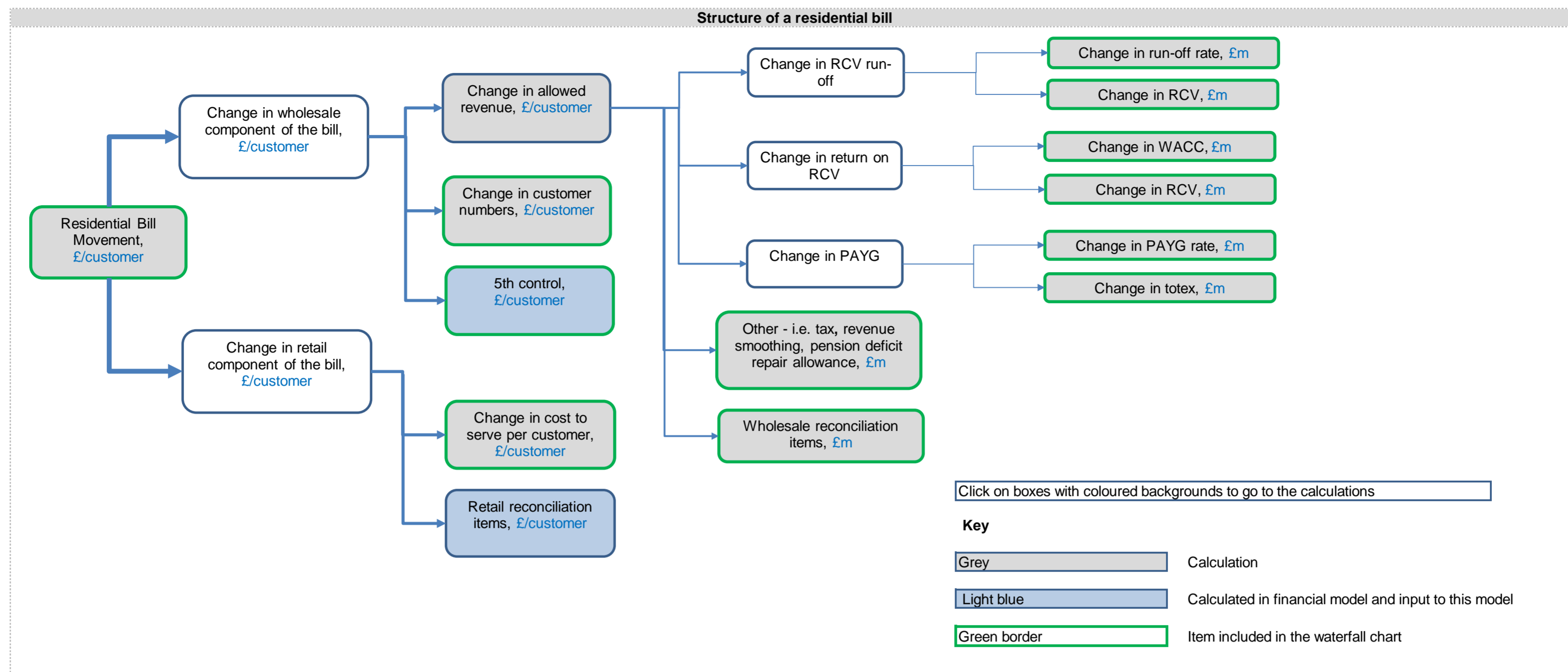
### LIST OF MACROS USED

<b>Store track results</b>		
<b>Store track results</b>		This macro helps in storing the results/outputs after any change is made in the model on "Track" sheet. These stored results then can be used to analyse the impact of any change made in the model. <a href="#">Goto macro</a>
<b>Save as PDF</b>		
<b>Save as PDF</b>		This macro helps in saving any worksheet or chart in PDF format.

End of sheet

# Model Design

## GENERAL MODEL DESIGN



## ASSUMPTIONS

- Price Base:**
- >>> The price base for the model is 2017/18 year average CPIH deflated
  - >>> 2019/20 inputs from the PR14 model are real  
In the PR14 model 'real' means 2012/13 FYA RPI deflated  
In the PR14 model retail prices were not indexed (real = nominal)
  - >>> 2024/25 inputs from the PR19 model can be real or nominal (they are labelled)  
In the PR19 model 'real' means 2017/18 FYA CPIH deflated  
In the PR19 model retail prices are indexed
  - >>> All inputs are indexed to the model price base

## CALCULATIONS

- Calculations:**
- wholesale components, £m
- > All items on the waterfall chart are in £ per customer. Wholesale reconciliation items are simply calculated by subtracting the sum of PR19 items from the sum of PR14 items. PR19 retail reconciliation items are input as £ per customer and added when the wholesale items are converted to £ per customer (see later).
  - > Other wholesale items are simply calculated by subtracting the sum of PR19 items from the sum of PR14 items. The PR19 impact of reprofiling is directly input whereas the PR14 impact of reprofiling needs to be calculated.
  - > The other 6 wholesale components (run-off rate/RCV, WACC/RCV, PAYG%/totex) are all calculated using the method below for PAYG Totex:
    - a Calculate the change in PAYG Totex = (PR19 PAYG Totex - PR14 PAYG Totex)
    - b Calculate the PR14 PAYG Totex using the PR19 PAYG% = (PR14 Totex \* PR19 PAYG%)
    - c Calculate the change in PAYG Totex due to change in PAYG% = (line b - PR14 PAYG Totex)
    - d Calculate the change in PAYG Totex due to change in Totex = (line a - line c)[Goto calculation](#)
- wholesale components, £/cust
- All items on the waterfall chart are in £ per customer. The wholesale components are initially calculated in £m as described above. The method for calculating the wholesale components in £ per customer is as follows:
- 1 Sum all 8 wholesale components, £m
  - 2 For each individual wholesale component calculate its proportion of the sum, £m
  - 3 Multiply this proportion by the Change in Allowed Revenue, £ per customer
- [Goto calculation](#)
- wholesale allowed revenue
- Calculate the Change in Allowed Revenue, £ per customer, as follows:
- 1 Calculate the Residential Bill Movement, £ per customer
  - 2 Calculate the Change in Retail Cost To Serve, £ per customer
  - 3 Calculate the Change in Retail Reconciliation Items, £ per customer
  - 4 Calculate the Change in wholesale dummy control allowed revenue
  - 5 Calculate the Change in Customer Numbers, £ per customer
  - 6 The Change in Allowed Revenue is (line 1 - (line 2 + line 3 + line 4 + line 5))
- [Goto calculation](#)
- customer numbers
- Calculate the change in the bill due to the change in customers numbers and household apportionment, £ per customer, as follows:
- 1 Calculate the PR19 total households as a % of the PR14 total households
  - 2 Calculate the PR19 household apportionment as a % of the PR14 household apportionment
  - 3 The change due to customer numbers is (wholesale allowed revenue \* line 2 / line 1) - wholesale allowed revenue
  - 4 Do this separately for water and wastewater and then sum the two values
- [Goto calculation](#)

Title of component displayed on chart	Definition	Calculation
<a href="#">RCV</a>	Change in customer bill due to a change in RCV depreciation and return on RCV caused by changing the RCV with all other components held constant.	a> Calculate the change in RCV depreciation = (PR19 RCV depreciation - PR14 RCV depreciation) b> Calculate the PR14 RCV depreciation using the PR19 RCV run-off rate = (PR14 Total RCV * PR19 RCV run-off rate) c> Calculate the change in RCV depreciation due to change in RCV run-off rate = (line b - PR14 RCV depreciation) d> Calculate the change in RCV depreciation due to change in RCV = (line a - line c) e> Repeat for return on RCV and sum.
<a href="#">Totex</a>	Change in customer bill due to a change in PAYG Totex caused by changing the Totex with all other components held constant.	a> Calculate the change in PAYG Totex = (PR19 PAYG Totex - PR14 PAYG Totex) b> Calculate the PR14 PAYG Totex using the PR19 PAYG% = (PR14 Totex * PR19 PAYG%) c> Calculate the change in PAYG Totex due to change in PAYG% = (line b - PR14 PAYG Totex) d> Calculate the change in PAYG Totex due to change in Totex = (line a - line c)
<a href="#">PAYG%</a>	Change in customer bill due to a change in PAYG Totex caused by changing the PAYG% with all other components held constant.	a> Calculate the change in PAYG Totex = (PR19 PAYG Totex - PR14 PAYG Totex) b> Calculate the PR14 PAYG Totex using the PR19 PAYG% = (PR14 Totex * PR19 PAYG%) c> Calculate the change in PAYG Totex due to change in PAYG% = (line b - PR14 PAYG Totex)
<a href="#">Run-off rate</a>	Change in customer bill due to a change in RCV depreciation caused by changing the RCV run-off rate with all other components held constant.	a> Calculate the change in RCV depreciation = (PR19 RCV depreciation - PR14 RCV depreciation) b> Calculate the PR14 RCV depreciation using the PR19 RCV run-off rate = (PR14 Total RCV * PR19 RCV run-off rate) c> Calculate the change in RCV depreciation due to change in RCV run-off rate = (line b - PR14 RCV depreciation)
<a href="#">WACC</a>	Change in customer bill due to a change in the return on RCV caused by changing the WACC with all other components held constant.	a> Calculate the change in return on RCV = (PR19 return on RCV - PR14 return on RCV) b> Calculate the PR14 return on RCV using the PR19 WACC = (PR14 Total return on RCV * PR19 WACC) c> Calculate the change in return on RCV due to change in WACC = (line b - PR14 return on RCV)
<a href="#">Other wholesale items</a>	Change in customer bill due to a change in any other wholesale item with all other components held constant	Calculate the PR14 impact of reprofiling and add to the other PR14 wholesale items. Subtract the PR19 wholesale items to find the change in other wholesale items.
<a href="#">Reconciliations items</a>	Change in customer bill due to a change in any reconciliation items with all other components held constant	Subtract the PR19 reconciliation items from the PR14 reconciliation items to find the change in reconciliation items.
<a href="#">5th control retail CTS</a>	The PR19 5th control allowed revenue. Change in customer bill due to a change in retail CTS with all other components held constant	There was no 5th control at PR14. If there is a 5th control at PR19 this will cause a rise in the bill. Sum the single service allowed revenue for both PR14 and PR19 to get the joint service allowed revenue. Do not index since in the PR14 model wholesale prices are indexed but retail prices are not indexed. Subtract the PR19 value from the PR14 value to find the change in retail allowed revenue.
<a href="#">customer numbers and residential apportionment</a>	Change in customer bill due to a change in customer numbers and/or residential apportionment with all other components held constant.	a> Calculate the PR19 households as a percentage of the PR14 households b> Calculate the PR19 apportionment as a percentage of the PR14 apportionment c> Divide apportionment by households (b divided by a) to find the percentage change in allowed revenue

End of sheet

# InpC

	Constant	Unit	Value	Note
<b>NON CHANGEABLE INPUTS</b>				
Track Tolerance Level	0.001000	tolerance		
Check Tolerance Level	0.000000	tolerance		
Thousands in a million	1,000	thousand		
<b>TIME</b>				
PR14 Model period ending	31 Mar 2020	date		
PR14 Financial year ending	2020	year #		
PR19 Model period ending	31 Mar 2025	date		
PR19 Financial year ending	2025	year #		
<b>MODEL PARAMETERS</b>				
Model 1 label	PR14	text		
Model 2 label	PR19	text		
PR14 Company Name	TMS	text	for info only	
PR14 Company Type	WaSC	text		
PR19 Company Name	TMS	text	for info only	
PR19 Company Type	WaSC	text		
Company Type	WaSC	name		
Company type switch	-	0 = WaSC, 1 = WoC		
Company Type switch check	-	check		
<b>INDEXATION</b>				
<b>Inflation from 2013 FYA to 2020 FYE - RPI</b>				
RPI: Financial year average 2012/13	244.68	index		
RPI: March 2020	295.38	index		[180523 App23 v0.3 factors for bill waterfall.xlsx]App23!O18
RPI inflate from 2013 FYA to 2020 FYE	1.2072	factor		
<b>Deflation from 2020 FYE to 2018 FYA - CPIH</b>				
CPIH: Financial year average 2017/18	104.22	index		[180523 App23 v0.3 factors for bill waterfall.xlsx]App23!M40
CPIH: March 2020	109.63	index		[180523 App23 v0.3 factors for bill waterfall.xlsx]App23!O33
CPIH deflate from 2020 FYE to 2018 FYA	1.0519	factor		
RPI inflate from 2013 FYA to 2020 FYE	1.2072	factor		
CPIH deflate from 2020 FYE to 2018 FYA	1.0519	factor		
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor		
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor		[180523 App23 v0.3 factors for bill waterfall.xlsx]App23!T51
<b>End of sheet</b>				
<b>Thames Water added switches</b>				
Switch to include some inputs from excl TTT PR14 model	1			Switch to 1 to use alternative calculation
Switch to exclude Retail PR14 reconciliation adjustment from cost to serve change	1			Switch to 1 to use alternative calculation
Switch to include 'Operating income' within Other wholesale items	1			Switch to 1 to use alternative calculation
Switch to use bottom-up bill driver calculation, rather than revenue allocation	1			Switch to 1 to use alternative calculation

## InpAct

Constant      Unit      Active Value      Override      Linked Value      Note

## BILL

## Retail allowed revenue per customer: joint services

PR14	Average water-only bill		£	195.28		195.28
PR14	Average wastewater-only bill		£	185.35		185.35
PR19	WoC average bill - real	-	£	-		-
PR19	WaSC average bill - real	-	£	378.08		378.08

## CUSTOMERS

PR14	Water: Number of unmeasured households		000s	32.14		32.14
PR14	Water: Number of measured households		000s	15.45		15.45
PR14	Wastewater: Number of unmeasured households		000s	637.14		637.14
PR14	Wastewater: Number of measured households with standing charge		000s	1,342.69		1,342.69
PR14	Households connected for water and wastewater - unmetered		000s	1,693.79		1,693.79
PR14	Households connected for water and wastewater - metered		000s	1,863.74		1,863.74
PR19	Households connected for water only - metered	-	000s	33.75		33.75
PR19	Households connected for sewerage only - unmetered	-	000s	553.09		553.09
PR19	Households connected for water and sewerage - metered	-	000s	2,208.90		2,208.90
PR19	Households connected for water only - unmetered	-	000s	18.93		18.93
PR19	Households connected for sewerage only - metered	-	000s	1,526.12		1,526.12
PR19	Households connected for water and sewerage - unmetered	-	000s	1,501.17		1,501.17

## ALLOWED REVENUE

## Retail allowed revenue per customer

PR14	Retail allowed revenue per customer: single service		£	27.09		27.09
PR14	Retail allowed revenue per customer: joint services		£	35.22		35.22
PR19	Retail allowed revenue per customer: single service - real	-	£	15.33		15.33
PR19	Retail allowed revenue per customer: joint service - real	-	£	31.30		31.30
PR14	Wholesale dummy control allowed revenue - real		£/cust	35.27		
PR19	Wholesale dummy control allowed revenue (excluding capital connection charges, other income and operating income) per residential customer - real	-	£	17.91		17.91

in PR14 joint service AR = single service AR \* economies of scope factor (= 1.3)

Thames Tideway only: value in £/customer to be input Thames Tideway only

## Wholesale allowed revenue

PR14	Wholesale water allowed revenue per customer excluding capital connection charges, other income and operating income		£	168.19		168.19
PR14	Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income		£	158.26		158.26
PR14	Revenue requirement including tax charge - real - water		£m	771.53		771.53
PR14	Phase 9: Re-profiled allowed revenue - real - water		£m	771.53		771.53
PR14	Revenue requirement including tax charge - real - wastewater		£m	1,068.67		1,068.67
PR14	Phase 9: Re-profiled allowed revenue - real - wastewater		£m	1,068.67		1,068.67
PR14	Wholesale Water - household apportionment calculated		%	78.59%		78.59%
PR14	Wholesale Wastewater - household apportionment calculated		%	82.00%		82.00%
PR19	Revenue requirement with impact of reprofiling excl. tax charge - WR - nominal	-	£m	115.07		115.07
PR19	Revenue requirement with impact of reprofiling excl. tax charge - WN - nominal	-	£m	1,005.90		1,005.90
PR19	Revenue requirement with impact of reprofiling excl. tax charge - WWN - nominal	-	£m	905.29		905.29
PR19	Revenue requirement with impact of reprofiling excl. tax charge - BR - nominal	-	£m	203.12		203.12
PR19	Re-profiled allowed revenue adjusted (excl. tax) - WR - real	-	£m	99.74		99.74
PR19	Revenue requirement excluding tax charge - WR - real	-	£m	99.74		99.74
PR19	Impact of re-profiling of allowed revenue - WR - real	-	£m	-		-
PR19	Re-profiled allowed revenue adjusted (excl. tax) - WN - real	-	£m	871.82		871.82
PR19	Revenue requirement excluding tax charge - WN - real	-	£m	871.82		871.82
PR19	Impact of re-profiling of allowed revenue - WN - real	-	£m	-		-
PR19	Re-profiled allowed revenue adjusted (excl. tax) - WWN - real	-	£m	784.62		784.62
PR19	Revenue requirement excluding tax charge - WWN - real	-	£m	784.62		784.62
PR19	Impact of re-profiling of allowed revenue - WWN - real	-	£m	-		-
PR19	Re-profiled allowed revenue adjusted (excl. tax) - BR - real	-	£m	176.05		176.05
PR19	Revenue requirement excluding tax charge - BR - real	-	£m	176.05		176.05
PR19	Impact of re-profiling of allowed revenue - BR - real	-	£m	-		-
PR19	Water resources- residential apportionment CALC	-	%	76.60%		76.60%
PR19	Water network - residential apportionment CALC	-	%	75.57%		75.57%
PR19	Wastewater network - residential apportionment CALC	-	%	80.43%		80.43%
PR19	Bio resources - residential apportionment CALC	-	%	80.43%		80.43%

## WHOLESALE

PR14	Proportion of capex that is subject to depreciation in year of acquisition		%	50.00%		50.00%
<b>Totex</b>						
PR14	Totex - real - Water		£m	657.01		657.01
PR14	Totex - real - Wastewater		£m	615.23	615.23	639.42
PR14	PAYG Totex - real - Water		£m	405.14		405.14
PR14	PAYG Totex - real - Wastewater		£m	332.30		332.30
PR19	Totex - net of grants and contributions - WR (post sensi adj) - nominal	-	£m	148.76		148.76
PR19	Totex - net of grants and contributions - WN (post sensi adj) - nominal	-	£m	1,097.13		1,097.13
PR19	Totex - net of grants and contributions - WWN (post sensi adj) - nominal	-	£m	951.96		951.96
PR19	Totex - net of grants and contributions - BR (post sensi adj) - nominal	-	£m	144.99		144.99
PR19	Water resources: PAYG Totex - nominal	-	£m	82.86		82.86
PR19	Water network: PAYG Totex - nominal	-	£m	469.24		469.24
PR19	Wastewater network: PAYG Totex - nominal	-	£m	413.58		413.58
PR19	Bio resources: PAYG Totex - nominal	-	£m	60.32		60.32
PR19	PAYG% - water resources - active - WR	-	%	55.70%		55.70%
PR19	PAYG% - water network - active - WN	-	%	42.77%		42.77%
PR19	PAYG% - wastewater network - active - WWN	-	%	43.45%		43.45%
PR19	PAYG% - bio resources - active - BR	-	%	41.60%		41.60%
<b>RCV depreciation</b>						
<b>Water</b>						
PR14	RCV as at 2015 - real - water		£m	4,064.28		4,064.28
PR14	Depreciation of 2015 RCV - real - water		£m	(114.79)		(114.79)
PR14	RCV Additions: Average Asset Life (to 1dp) - Water		years	20.18		20.18
PR14	Non-PAYG Totex in year additions - real		£m	251.87		251.87
PR14	Non-PAYG Totex - real		£m	285.83		285.83
PR14	Non-PAYG Totex - real		£m	301.77		301.77
PR14	Non-PAYG Totex - real		£m	286.87		286.87
PR14	Non-PAYG Totex - real		£m	272.18		272.18
PR14	Non-PAYG Totex balance BEG - real		£m	1,146.64		
<b>Wastewater</b>						
PR14	RCV as at 2015 - real - Wastewater		£m	4,451.33	4,451.33	5,321.09
PR14	Depreciation of 2015 RCV - real - wastewater		£m	(238.25)	(238.25)	(242.11)
PR14	RCV Additions: Average Asset Life (to 1dp) - Wastewater		years	22.92	22.92	29.6
PR14	Non-PAYG Totex in year additions - real		£m	282.93	282.93	307.12
PR14	Non-PAYG Totex - real		£m	457.71	457.71	640.71
PR14	Non-PAYG Totex - real		£m	397.17	397.17	479.69
PR14	Non-PAYG Totex - real		£m	407.29	407.29	464.56
PR14	Non-PAYG Totex - real		£m	336.10	336.10	394.34
PR14	Non-PAYG Totex balance BEG - real		£m	1,598.27		
<b>Water resources</b>						
PR19	RCV CPI(H) bf balance BEG - WR - nominal	-	£m	151.16		151.16
PR19	Indexation on RCV - CPI(H) bf balance - WR - nominal	-	£m	3.02		3.02
PR19	RCV - CPI(H) bf depreciation - WR - nominal	-	£m	3.76		3.76
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WR - nominal	-	£m	145.45		145.45
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WR - nominal	-	£m	4.36		4.36
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WR - nominal	-	£m	6.36		6.36
PR19	Method used to apply run off rate (straight line or reducing balance) - water resources - RCV additions depreciation	Reducing balance	switch	for info		
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WR		%	50.00%		50.00%
PR19	RCV additions balance BEG - WR - nominal	-	£m	187.65		187.65
PR19	Indexation of RCV additions b/f - WR - nominal	-	£m	3.75		3.75
PR19	Water resources: Non-PAYG Totex - nominal	-	£m	65.90		65.90
PR19	Run-off rate - CPI(H) - active - WR	-	%	2.44%		2.44%
PR19	Run-off rate - CPI(H) + RPI wedge - active - WR	-	%	4.25%		4.25%
PR19	Run-off rate - RCV additions - active - WR	-	%	4.76%		4.76%
<b>Water network</b>						
PR19	RCV CPI(H) bf balance BEG - WN - nominal	-	£m	2,899.45		2,899.45
PR19	Indexation on RCV - CPI(H) bf balance - WN - nominal	-	£m	57.99		57.99
PR19	RCV - CPI(H) bf depreciation - WN - nominal	-	£m	108.92		108.92
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WN - nominal	-	£m	2,878.40		2,878.40
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WN - nominal	-	£m	86.35		86.35
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WN - nominal	-	£m	72.07		72.07
PR19	Method used to apply run off rate (straight line or reducing balance) - water network plus CPI(H) linked - RCV additions depreciation	Reducing balance	switch	for info		
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WN		%	50.00%		50.00%
PR19	RCV additions balance BEG - WN - nominal	-	£m	2,580.61		2,580.61
PR19	Indexation of RCV additions b/f - WN - nominal	-	£m	51.61		51.61
PR19	Water network: Non-PAYG Totex - nominal	-	£m	627.89		627.89
PR19	Run-off rate - CPI(H) - active - WN	-	%	3.68%		3.68%
PR19	Run-off rate - CPI(H) + RPI wedge - active - WN	-	%	2.43%		2.43%
PR19	Run-off rate - RCV additions - active - WN	-	%	3.68%		3.68%
<b>Wastewater network</b>						
PR19	RCV CPI(H) bf balance BEG - WWN - nominal	-	£m	2,371.75		2,371.75



PR19	Indexation on RCV - CPI(H) bf balance - WWN - nominal	-	£m	47.43		47.43	
PR19	RCV - CPI(H) bf depreciation - WWN - nominal	-	£m	112.12		112.12	
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WWN - nominal	-	£m	2,304.74		2,304.74	
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WWN - nominal	-	£m	69.14		69.14	
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WWN - nominal	-	£m	74.47		74.47	
PR19	Method used to apply run off rate (straight line or reducing balance) ~ wastewater network plus CPI(H) linked - RCV additions depreciation	Reducing balance	switch	for info			
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WWN		%	50.00%		50.00%	
PR19	RCV additions balance BEG - WWN - nominal	-	£m	2,087.76		2,087.76	
PR19	Indexation of RCV additions b/f - WWN - nominal	-	£m	41.76		41.76	
PR19	Wastewater network: Non-PAYG Totex - nominal	-	£m	538.38		538.38	
PR19	Run-off rate - CPI(H) - active - WWN	-	%	4.63%		4.63%	
PR19	Run-off rate - CPI(H) + RPI wedge - active - WWN	-	%	3.14%		3.14%	
PR19	Run-off rate - RCV additions - active - WWN	-	%	4.63%		4.63%	
<b>Bio resources</b>							
PR19	RCV CPI(H) bf balance BEG - BR - nominal	-	£m	746.83		746.83	
PR19	Indexation on RCV - CPI(H) bf balance - BR - nominal	-	£m	14.94		14.94	
PR19	RCV - CPI(H) bf depreciation - BR - nominal	-	£m	25.59		25.59	
PR19	RCV CPI(H) + RPI wedge bf balance BEG - BR - nominal	-	£m	731.86		731.86	
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - BR - nominal	-	£m	21.96		21.96	
PR19	RCV - CPI(H) + RPI wedge bf depreciation - BR - nominal	-	£m	35.55		35.55	
PR19	Method used to apply run off rate (straight line or reducing balance) ~ bioresources - RCV additions depreciation	Reducing balance	switch	for info			
PR19	Proportion of capex that is subject to depreciation in year of acquisition - BR		%	50.00%		50.00%	
PR19	RCV additions balance BEG - BR - nominal	-	£m	322.92		322.92	
PR19	Indexation of RCV additions b/f - BR - nominal	-	£m	6.46		6.46	
PR19	Bio resources: Non-PAYG Totex - nominal	-	£m	84.68		84.68	
PR19	Run-off rate - CPI(H) - active - BR	-	%	-		-	
PR19	Run-off rate - CPI(H) + RPI wedge - active - BR	-	%	4.72%		4.72%	
PR19	Run-off rate - RCV additions - active - BR	-	%	7.80%		7.80%	
<b>Return on RCV</b>							
<b>Water</b>							
PR14	Average 2015 RCV - real - water		£m	4,006.88		4,006.88	
PR14	Return on 2015 RCV Bf - real - water		£m	144.25		144.25	
PR14	Average RCV; post 2015 additions - real - water		£m	1,126.04		1,126.04	
PR14	Return on RCV Additions - real - water		£m	40.54		40.54	
<b>Wastewater</b>							
PR14	Average 2015 RCV - real - Wastewater		£m	4,332.21	4,332.21	5,200.03	
PR14	Return on 2015 RCV Bf - real - Wastewater		£m	155.96	155.96	187.20	
PR14	Average RCV; post 2015 additions - real - Wastewater		£m	1,554.54	1,554.54	1,950.34	
PR14	Return on RCV Additions - real - Wastewater		£m	55.96	55.96	70.21	
<b>Water resources</b>							
PR19	Average of RCV - CPI(H) bf - WR - nominal	-	£m	152.30		152.30	
PR19	WACC real on RCV - CPI(H) bf and additions - WR	-	%	3.30%		3.30%	
PR19	Return on RCV - CPI(H) bf - WR - nominal	-	£m	5.03		5.03	
PR19	Average of RCV - CPI(H) + RPI wedge bf - WR - nominal	-	£m	146.64		146.64	
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WR	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) + RPI wedge bf - WR - nominal	-	£m	3.37		3.37	
PR19	Average of RCV post 2020 additions - WR - nominal	-	£m	219.01		219.01	
PR19	WACC real on RCV - CPI(H) bf and additions - WR	-	%	3.30%		3.30%	
PR19	Return on RCV additions - WR - nominal	-	£m	7.24		7.24	
PR19	Average of RCV - CPI(H) other adjustments balance - WR - nominal	-	£m	-		-	
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WR	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - WR - nominal	-	£m	-		-	
<b>Water network</b>							
PR19	Average of RCV - CPI(H) bf - WN - nominal	-	£m	2,902.98		2,902.98	
PR19	WACC real on RCV - CPI(H) bf and additions - WN	-	%	3.30%		3.30%	
PR19	Return on RCV - CPI(H) bf - WN - nominal	-	£m	95.91		95.91	
PR19	Average of RCV - CPI(H) + RPI wedge bf - WN - nominal	-	£m	2,928.72		2,928.72	
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WN	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) + RPI wedge bf - WN - nominal	-	£m	67.39		67.39	
PR19	Average of RCV post 2020 additions - WN - nominal	-	£m	2,891.91		2,891.91	
PR19	WACC real on RCV - CPI(H) bf and additions - WN	-	%	3.30%		3.30%	
PR19	Return on RCV additions - WN - nominal	-	£m	95.55		95.55	
PR19	Average of RCV - CPI(H) other adjustments balance - WN - nominal	-	£m	-		-	
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WN	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - WN - nominal	-	£m	-		-	
<b>Wastewater network</b>							
PR19	Average of RCV - CPI(H) bf - WWN - nominal	-	£m	2,363.12		2,363.12	

PR19	WACC real on RCV - CPI(H) bf and additions - WWN	-	%	3.30%		3.30%	only used for tracking
PR19	Return on RCV - CPI(H) bf - WWN - nominal	-	£m	78.08		78.08	
PR19	Average of RCV - CPI(H) + RPI wedge bf - WWN - nominal	-	£m	2,336.65		2,336.65	
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WWN	-	%	2.30%		2.30%	only used for tracking
PR19	Return on RCV - CPI(H) + RPI wedge bf - WWN - nominal	-	£m	53.77		53.77	
PR19	Average of RCV post 2020 additions - WWN - nominal	-	£m	2,343.12		2,343.12	
PR19	WACC real on RCV - CPI(H) bf and additions - WWN	-	%	3.30%		3.30%	
PR19	Return on RCV additions - WWN - nominal	-	£m	77.41		77.41	
PR19	Average of RCV - CPI(H) other adjustments balance - WWN - nominal	-	£m	-		-	Non-depreciated adjustment to RCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WWN	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - WWN - nominal	-	£m	-		-	
<b>Bio resources</b>							
PR19	Average of RCV - CPI(H) bf - BR - nominal	-	£m	748.98		748.98	
PR19	WACC real on RCV - CPI(H) bf and additions - BR	-	%	3.30%		3.30%	only used for tracking
PR19	Return on RCV - CPI(H) bf - BR - nominal	-	£m	24.75		24.75	
PR19	Average of RCV - CPI(H) + RPI wedge bf - BR - nominal	-	£m	736.04		736.04	
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - BR	-	%	2.30%		2.30%	only used for tracking
PR19	Return on RCV - CPI(H) + RPI wedge bf - BR - nominal	-	£m	16.94		16.94	
PR19	Average of RCV post 2020 additions - BR - nominal	-	£m	357.23		357.23	
PR19	WACC real on RCV - CPI(H) bf and additions - BR	-	%	3.30%		3.30%	
PR19	Return on RCV additions - BR - nominal	-	£m	11.80		11.80	
PR19	Average of RCV - CPI(H) other adjustments balance - BR - nominal	-	£m	-		-	Non-depreciated adjustment to RCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - BR	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - BR - nominal	-	£m	-		-	
<b>Other wholesale items</b>							
PR14	Tax charge - real - water		£m	-		-	plus this
PR14	Pension deficit repair allowance - real - water		£m	9.07		9.07	plus this
PR14	Other income (incl 3rd party income) - real - water		£m	(5.89)	(5.89)	(5.54)	less this
PR14	Tax charge - real - wastewater		£m	-		-	plus this
PR14	Pension deficit repair allowance - real - wastewater		£m	8.34		8.34	plus this
PR14	Other income (incl 3rd party income) - real - wastewater		£m	(11.37)	(11.37)	(11.10)	less this
PR19	Wholesale Water resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - WR - real	-	£m	-		-	plus this
PR19	Tax WR - real	-	£m	-		-	plus this
PR19	Third party & principle service revenues - WR - real	-	£m	(3.85)		(3.85)	less this
PR19	Wholesale Water network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - WN - real	-	£m	-		-	plus this
PR19	Tax WN - real	-	£m	-		-	plus this
PR19	Third party & principle service revenues - WN - real	-	£m	(5.08)		(5.08)	less this
PR19	Wholesale Wastewater network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - WWN - real	-	£m	-		-	plus this
PR19	Tax WWN - real	-	£m	-		-	plus this
PR19	Third party & principle service revenues - WWN - real	-	£m	(10.08)		(10.08)	less this
PR19	Wholesale Bio resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - BR - real	-	£m	-		-	plus this
PR19	Tax BR - real	-	£m	-		-	plus this
PR19	Third party & principle service revenues - BR - real	-	£m	(0.70)		(0.70)	less this

**RECONCILIATIONS****Water**

PR14	SIM adjustment (+ or -) - real - Water		£m	(8.18)		(8.18)	
PR14	Opex incentive allowance (+ only) - real - Water		£m	-		-	
PR14	CIS adjustment (+ or -) - real - Water		£m	(3.23)		(3.23)	
PR14	RCM adjustment (+ or -) - real - Water		£m	8.15		8.15	
PR14	Equity injection clawback (- only) - real - Water		£m	-		-	
PR14	Tax refinancing benefit clawback (- only) - real - Water		£m	-		-	
PR14	Outcome delivery incentive (+ or -) - real - Water		£m	-		-	
PR14	Totex menu additional income (+ or -) - real - Water		£m	3.84		3.84	
PR14	Other tax adjustments (+ or -) Value Chosen - real - Water		£m	-		-	
PR14	Other adjustments (+ or -) Value Chosen - real - Water		£m	-		-	

**Wastewater**

PR14	SIM adjustment (+ or -) - real - Wastewater		£m	(8.66)		(8.66)	
PR14	Opex incentive allowance (+ only) - real - Wastewater		£m	-		-	
PR14	CIS adjustment (+ or -) - real - Wastewater		£m	(15.50)		(15.50)	
PR14	RCM adjustment (+ or -) - real - Wastewater		£m	14.73		14.73	
PR14	Equity injection clawback (- only) - real - Wastewater		£m	-		-	
PR14	Tax refinancing benefit clawback (- only) - real - Wastewater		£m	-		-	
PR14	Outcome delivery incentive (+ or -) - real - Wastewater		£m	-		-	
PR14	Totex menu additional income (+ or -) - real - Wastewater		£m	1.49	1.49	1.60	

PR14	Other tax adjustments (+ or -) Value Chosen - real - Wastewater	£m	-	-
PR14	Other adjustments (+ or -) Value Chosen - real - Wastewater	£m	-	6.785

**Retail**

PR19	Residential retail revenue adjustment per customer - real	-	£ / cust	(3.53)	(3.53)
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**Water**

PR19	Water resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Water resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Water resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	-
PR19	Water resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	-
PR19	Water resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Water resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Water resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	0.18	0.18
PR19	Water network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	(15.34)	(15.34)
PR19	Water network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Water network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	(2.01)	(2.01)
PR19	Water network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	12.60	12.60
PR19	Water network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Water network - Blind year (+ or -) Value Chosen - active - real	-	£m	(0.30)	(0.30)
PR19	Water network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	-

**Wastewater**

PR19	Wastewater network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	(2.40)	(2.40)
PR19	Wastewater network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Wastewater network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	0.66	0.66
PR19	Wastewater network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	4.08	4.08
PR19	Wastewater network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Wastewater network - Blind year (+ or -) Value Chosen - active - real	-	£m	(5.53)	(5.53)
PR19	Wastewater network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Bio resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Bio resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Bio resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	-
PR19	Bio resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	-
PR19	Bio resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Bio resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-	-
PR19	Bio resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	-

**End of sheet****PR14 TTT bill analysis**

Extract from PR14 TMS TTT IP financial model (2012/13 prices)

Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income	158.26	Exec summary N29
Retail allowed revenue per customer: single service	27.09	Exec summary N32
Total Wastewater single service bill, including TTT (TWUL and IP)	185.35	
Check	-	

Extract from PR14 TMS financial model (2012/13 prices)

Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income	125.50	Exec summary N29
Retail allowed revenue per customer: single service	26.75	Exec summary N32
Total Wastewater single service bill, including TTT (TWUL and IP)	152.24	

Delta (2012/13 prices)

Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income	32.76	TTT price control, including TTT revenue pass-through to IP
Retail allowed revenue per customer: single service	0.34	Included in Retail delta
Total Wastewater single service bill, including TTT (TWUL and IP)	33.11	

Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated

1.1476

Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income (2017/18 CPIH prices)

37.60

Exclude element relating to customer numbers

(2.33)

Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income, excluding customer number change (2017/18 CPIH prices)

35.27

**Operating income**

Water	(0.35)	Linked to PR14 model
Wastewater	(0.27)	Linked to PR14 model

**Input data excluding TTT**

Totex - real - Wastewater	615.23
RCV as at 2015 - real - Wastewater	4,451.33
Depreciation of 2015 RCV - real - wastewater	(238.25)
RCV Additions: Average Asset Life (to 1dp) - Wastewater	22.92
Non-PAYG Totex in year additions - real	282.93
Non-PAYG Totex - real	457.71
Non-PAYG Totex - real	397.17
Non-PAYG Totex - real	407.29
Non-PAYG Totex - real	336.10
Average 2015 RCV - real - Wastewater	4,332.21
Return on 2015 RCV Bf - real - Wastewater	155.96
Average RCV; post 2015 additions - real - Wastewater	1,554.54
Return on RCV Additions - real - Wastewater	55.96

Totex menu additional income (+ or -) - real - Wastewater  
Other adjustments (+ or -) Value Chosen - real - Wastewater

1.49
-

## RCV

-	Error chks
93	Track checks

Constant	Unit	Value	Note
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**WHOLESALE: Change in bill due to change in RCV DEPRECIATION**

This section calculates the components causing the change in RCV depreciation

**Water****PR14**

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14	RCV as at 2015 - real - water	-	£m	4,064.28
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - water	-	£m	4,664.29
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14	Depreciation of 2015 RCV - real - water	-	£m	(114.79)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Water	-	£m	(131.73)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Water POS	-	£m	131.73

Calculate depreciation on RCV additions using the equation in the PR14 model

PR14	Proportion of capex that is subject to depreciation in year of acquisition	-	%	50.00%
PR14	Non-PAYG Totex in year additions - real	-	£m	251.87
PR14	Non-PAYG Totex depreciated in year of acquisition - Water	-	£m	125.94
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14	Non-PAYG Totex depreciated in year of acquisition - Water	-	£m	125.94
PR14	Non-PAYG Totex balance BEG - real	-	£m	1,146.64
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	1,460.45
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	1,460.45
PR14	RCV Additions: Average Asset Life (to 1dp) - Water	-	years	20.2
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Water	-	£m	72.36
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - water	-	£m	4,664.29
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	1,460.45
PR14	RCV - 2017/18 year average CPIH deflated - Water	-	£m	6,124.74
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Water POS	-	£m	131.73
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Water	-	£m	72.36
PR14	RCV depreciation - 2017/18 year average CPIH deflated - Water	-	£m	204.09

**PR19****PR19 Water resources**

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV CPI(H) bf balance BEG - WR - nominal	-	£m	151.16
PR19	Indexation on RCV - CPI(H) bf balance - WR - nominal	-	£m	3.02
PR19	RCV CPIH BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	133.63
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV - CPI(H) bf depreciation - WR - nominal	-	£m	3.76
PR19	RCV CPIH depreciation - WR - 2017/18 year average CPIH deflated	-	£m	3.26
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WR - nominal	-	£m	145.45
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WR - nominal	-	£m	4.36
PR19	RCV CPIH + RPI wedge BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	129.85
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WR - nominal	-	£m	6.36
PR19	RCV CPIH + RPI wedge depreciation - WR - 2017/18 year average CPIH deflated	-	£m	5.52
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	Water resources: Non-PAYG Totex - nominal	-	£m	65.90
PR19	Water resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	57.12
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV additions balance BEG - WR - nominal	-	£m	187.65
PR19	Indexation of RCV additions b/f - WR - nominal	-	£m	3.75
PR19	RCV additions BEG plus Indexation - WR - 2017/18 year average CPIH deflated	-	£m	165.89

Calculate depreciation on RCV additions using the equations in the PR19 model

PR19	Method used to apply run off rate (straight line or reducing balance) ~ water resources - RCV additions depre	Reducing balance	switch	for info
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WR	-	%	50.00%
PR19	Water resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	57.12
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WR	-	£m	28.56
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WR	-	£m	28.56
PR19	Run-off rate - RCV additions - active - WR	-	%	4.76%
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated -WR	-	£m	1.36
PR19	RCV additions BEG plus Indexation - WR - 2017/18 year average CPIH deflated	-	£m	165.89
PR19	Run-off rate - RCV additions - active - WR	-	%	4.76%
PR19	RCV additions plus Indexation depreciation - 2017/18 year average CPIH deflated - WR	-	£m	7.90
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WR	-	£m	28.56
PR19	RCV additions BEG plus Indexation - WR - 2017/18 year average CPIH deflated	-	£m	165.89
PR19	RCV post 2020 additions plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	194.45
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated -WR	-	£m	1.36
PR19	RCV additions plus Indexation depreciation - 2017/18 year average CPIH deflated - WR	-	£m	7.90
PR19	RCV post 2020 additions plus indexation depreciation - WR - 2017/18 year average CPIH deflated	-	£m	9.26

**PR19 Water network**

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV CPI(H) bf balance BEG - WN - nominal	-	£m	2,899.45
PR19	Indexation on RCV - CPI(H) bf balance - WN - nominal	-	£m	57.99
PR19	RCV CPIH BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,563.237
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV - CPI(H) bf depreciation - WN - nominal	-	£m	108.92
PR19	PR19 RCV CPIH depreciation - WN - 2017/18 year average CPIH deflated	-	£m	94.40
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WN - nominal	-	£m	2,878.40
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WN - nominal	-	£m	86.35
PR19	RCV CPIH + RPI wedge BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,569.574
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WN - nominal	-	£m	72.07
PR19	PR19 RCV CPIH + RPI wedge depreciation - WN - 2017/18 year average CPIH deflated	-	£m	62.46
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	Water network: Non-PAYG Totex - nominal	-	£m	627.89
PR19	Water network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	544.20
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV additions balance BEG - WN - nominal	-	£m	2,580.61
PR19	Indexation of RCV additions b/f - WN - nominal	-	£m	51.61
PR19	RCV additions BEG plus Indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,281.36

## Calculate depreciation on RCV additions using the equations in the PR19 model

PR19	Method used to apply run off rate (straight line or reducing balance) ~ water network plus CPI(H) linked - RC <sup>1</sup>	Reducing balance	switch	for info
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WN	-	%	50.00%
PR19	Water network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	544.20
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WN	-	£m	272.10
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WN	-	£m	272.10
PR19	Run-off rate - RCV additions - active - WN	-	%	3.68%
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WN	-	£m	10.02
PR19	RCV additions BEG plus Indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,281.36
PR19	Run-off rate - RCV additions - active - WN	-	%	3.68%
PR19	RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WN	-	£m	84.02
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WN	-	£m	272.10
PR19	RCV additions BEG plus Indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,281.36
PR19	RCV post 2020 additions - WN - 2017/18 year average CPIH deflated	-	£m	2,553.46
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WN	-	£m	10.02
PR19	RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WN	-	£m	84.02
PR19	RCV post 2020 additions plus indexation depreciation - WN - 2017/18 year average CPIH deflated	-	£m	94.04

## Sum the components for water resources and water network

PR19	RCV CPIH BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	133.63
PR19	RCV CPIH + RPI wedge BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	129.85
PR19	RCV post 2020 additions plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	194.45
PR19	RCV CPIH BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,563.24
PR19	RCV CPIH + RPI wedge BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	2,569.57
PR19	RCV post 2020 additions - WN - 2017/18 year average CPIH deflated	-	£m	2,553.46
PR19	RCV balance - Water	-	£m	8,144.19
PR19	RCV CPIH depreciation - WR - 2017/18 year average CPIH deflated	-	£m	3.26
PR19	RCV CPIH + RPI wedge depreciation - WR - 2017/18 year average CPIH deflated	-	£m	5.52
PR19	RCV post 2020 additions plus indexation depreciation - WR - 2017/18 year average CPIH deflated	-	£m	9.26
PR19	PR19 RCV CPIH depreciation - WN - 2017/18 year average CPIH deflated	-	£m	94.40
PR19	PR19 RCV CPIH + RPI wedge depreciation - WN - 2017/18 year average CPIH deflated	-	£m	62.46
PR19	RCV post 2020 additions plus indexation depreciation - WN - 2017/18 year average CPIH deflated	-	£m	94.04
PR19	RCV depreciation - Water	-	£m	268.94

## Subtract the PR19 RCV depreciation from the PR14 RCV depreciation to give the actual change in RCV depreciation

PR14	RCV depreciation - 201718 year average CPIH deflated - Water	-	£m	204.09
PR19	RCV depreciation - Water	-	£m	268.94
	Change in RCV depreciation - Water	-	£m	64.84

## Calculate the PR14 RCV depreciation with the PR19 run-off rate (weighted average run-off rate for WR and WN)

PR19	RCV balance - Water	-	£m	8,144.19
PR19	RCV depreciation - Water	-	£m	268.94
PR19	PR19 Weighted average run-off rate - water	-	%	3.30%
PR14	RCV - 201718 year average CPIH deflated - Water	-	£m	6,124.74
PR19	PR19 Weighted average run-off rate - water	-	%	3.30%
	PR14 RCV depreciation with PR19 run-off rate - Water	-	£m	202.25

## Subtract the 'PR14 RCV depreciation with PR19 run-off rate' from the PR14 RCV depreciation to find the change in the RCV depreciation due to the change in the run-off rate only

PR14	RCV depreciation - 201718 year average CPIH deflated - Water	-	£m	204.09
	PR14 RCV depreciation with PR19 run-off rate - Water	-	£m	202.25
	Change in RCV depreciation due to change in run-off rate - Water	-	£m	(1.84)

## Subtract the impact of the change in run-off rate from the actual change in RCV depreciation to find the change in RCV depreciation due to the change in RCV only

	Change in RCV depreciation - Water	-	£m	64.84
	Change in RCV depreciation due to change in run-off rate - Water	-	£m	(1.84)
	Change in RCV depreciation due to change in RCV - Water	-	£m	66.69

## This section calculates the components that cause a change in the return on RCV

## Wastewater

## PR14

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14	RCV as at 2015 - real - Wastewater	-	£m	4,451.33
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - Wastewater	-	£m	5,108.49
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14	Depreciation of 2015 RCV - real - wastewater	-	£m	(238.25)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	(273.43)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Wastewater POS	-	£m	273.43

## Calculate depreciation on RCV additions using the equations in the PR14 model

PR14	Proportion of capex that is subject to depreciation in year of acquisition	-	%	50.00%
PR14	Non-PAYG Totex in year additions - real	-	£m	282.93
PR14	Non-PAYG Totex depreciated in year of acquisition - Wastewater	-	£m	141.47
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14	Non-PAYG Totex depreciated in year of acquisition - Wastewater	-	£m	141.47
PR14	Non-PAYG Totex balance BEG - real	-	£m	1,598.27
PR14	Non-PAYG Totex - 201718 year average CPIH deflated - Wastewater	-	£m	1,996.58
PR14	Non-PAYG Totex - 201718 year average CPIH deflated - Wastewater	-	£m	1,996.58
PR14	RCV Additions: Average Asset Life (to 1dp) - Wastewater	-	years	22.9
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	87.13
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - Wastewater	-	£m	5,108.49
PR14	Non-PAYG Totex - 201718 year average CPIH deflated - Wastewater	-	£m	1,996.58
PR14	RCV - 201718 year average CPIH deflated - Wastewater	-	£m	7,105.07
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Wastewater POS	-	£m	273.43
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	87.13
PR14	RCV depreciation - 201718 year average CPIH deflated - Wastewater	-	£m	360.55

## PR19

## PR19 Wastewater network

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV CPI(H) bf balance BEG - WWN - nominal	-	£m	2,371.75
PR19	Indexation on RCV - CPI(H) bf balance - WWN - nominal	-	£m	47.43
PR19	RCV CPIH BEG plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	2,096.72
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV - CPI(H) bf depreciation - WWN - nominal	-	£m	112.12
PR19	RCV CPIH depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	97.17
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WWN - nominal	-	£m	2,304.74
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WWN - nominal	-	£m	69.14
PR19	RCV CPIH + RPI wedge BEG plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	2,057.46
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WWN - nominal	-	£m	74.47
PR19	RCV CPIH + RPI wedge depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	64.55
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19	Wastewater network: Non-PAYG Totex - nominal	-	£m	538.38
PR19	Wastewater network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	466.62
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-

PR19 RCV additions balance BEG - WWN - nominal	-	£m	2,087.76
PR19 Indexation of RCV additions b/f - WWN - nominal	-	£m	41.76
PR19 RCV additions BEG plus Indexation - WWN - 2017/18 year average CPIH deflated	-	£m	1,845.66
<b>Calculate depreciation on RCV additions using the equations in the PR19 model</b>			
PR19 Method used to apply run off rate (straight line or reducing balance) ~ wastewater network plus CPI(H) linked	Reducing balance	switch	for info
PR19 Proportion of capex that is subject to depreciation in year of acquisition - WWN	-	%	50.00%
PR19 Wastewater network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	466.62
PR19 Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WWN	-	£m	233.31
PR19 Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WWN	-	£m	233.31
PR19 Run-off rate - RCV additions - active - WWN	-	%	4.63%
PR19 RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	10.81
PR19 RCV additions BEG plus Indexation - WWN - 2017/18 year average CPIH deflated	-	£m	1,845.66
PR19 Run-off rate - RCV additions - active - WWN	-	%	4.63%
PR19 RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	85.54
PR19 Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WWN	-	£m	233.31
PR19 RCV additions BEG plus Indexation - WWN - 2017/18 year average CPIH deflated	-	£m	1,845.66
PR19 RCV post 2020 additions plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	2,078.97
PR19 RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	10.81
PR19 RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	85.54
PR19 RCV post 2020 additions plus indexation depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	96.35
<b>PR19 Bio resources</b>			
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19 RCV CPI(H) bf balance BEG - BR - nominal	-	£m	746.83
PR19 Indexation on RCV - CPI(H) bf balance - BR - nominal	-	£m	14.94
PR19 RCV CPIH BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	660.23
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19 RCV - CPI(H) bf depreciation - BR - nominal	-	£m	25.59
PR19 RCV CPIH depreciation - BR - 2017/18 year average CPIH deflated	-	£m	22.18
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19 RCV CPI(H) + RPI wedge bf balance BEG - BR - nominal	-	£m	731.86
PR19 Indexation on RCV - CPI(H) + RPI wedge bf balance - BR - nominal	-	£m	21.96
PR19 RCV CPIH + RPI wedge BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	653.34
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19 RCV - CPI(H) + RPI wedge bf depreciation - BR - nominal	-	£m	35.55
PR19 RCV CPIH + RPI wedge depreciation - BR - 2017/18 year average CPIH deflated	-	£m	30.81
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19 Bio resources: Non-PAYG Totex - nominal	-	£m	84.68
PR19 Bio resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	73.39
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-
PR19 RCV additions balance BEG - BR - nominal	-	£m	322.92
PR19 Indexation of RCV additions b/f - BR - nominal	-	£m	6.46
PR19 Indexation of RCV additions b/f - BR - 2017/18 year average CPIH deflated	-	£m	285.48
<b>Calculate depreciation on RCV additions using the equations in the PR19 model</b>			
PR19 Method used to apply run off rate (straight line or reducing balance) ~ bioresources - RCV additions deprecia	Reducing balance	switch	for info
PR19 Proportion of capex that is subject to depreciation in year of acquisition - BR	-	%	50.00%
PR19 Bio resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	73.39
PR19 Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - BR	-	£m	36.69
PR19 Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - BR	-	£m	36.69
PR19 Run-off rate - RCV additions - active - BR	-	%	7.80%
PR19 RCV post 2020 additions depreciation - BR	-	£m	2.86
PR19 Indexation of RCV additions b/f - BR - 2017/18 year average CPIH deflated	-	£m	285.48
PR19 Run-off rate - RCV additions - active - BR	-	%	7.80%
PR19 Indexation of RCV post 2020 additions depreciation - BR	-	£m	22.26
PR19 Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - BR	-	£m	36.69
PR19 Indexation of RCV additions b/f - BR - 2017/18 year average CPIH deflated	-	£m	285.48
PR19 RCV post 2020 additions plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	322.17
PR19 RCV post 2020 additions depreciation - BR	-	£m	2.86
PR19 Indexation of RCV post 2020 additions depreciation - BR	-	£m	22.26
PR19 RCV post 2020 additions plus indexation depreciation - BR - 2017/18 year average CPIH deflated	-	£m	25.12
<b>Sum the components for bio resources and wastewater network</b>			
PR19 RCV CPIH BEG plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	2,096.72
PR19 RCV CPIH + RPI wedge BEG plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	2,057.46
PR19 RCV post 2020 additions plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	2,078.97
PR19 RCV CPIH BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	660.23
PR19 RCV CPIH + RPI wedge BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	653.34
PR19 RCV post 2020 additions plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	322.17
PR19 RCV balance - Wastewater	-	£m	7,868.90
PR19 RCV CPIH depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	97.17
PR19 RCV CPIH + RPI wedge depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	64.55
PR19 RCV post 2020 additions plus indexation depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	96.35
PR19 RCV CPIH depreciation - BR - 2017/18 year average CPIH deflated	-	£m	22.18
PR19 RCV CPIH + RPI wedge depreciation - BR - 2017/18 year average CPIH deflated	-	£m	30.81
PR19 RCV post 2020 additions plus indexation depreciation - BR - 2017/18 year average CPIH deflated	-	£m	25.12
PR19 RCV depreciation - Wastewater	-	£m	336.18
<b>Subtract the PR19 RCV depreciation from the PR14 RCV depreciation to give the actual change in RCV depreciation</b>			
Company type switch	-	0 = WaSC, 1 = WoC	
PR14 RCV depreciation - 201718 year average CPIH deflated - Wastewater	-	£m	360.55
PR19 RCV depreciation - Wastewater	-	£m	336.18
Change in RCV depreciation - Wastewater	-	£m	(24.37)
<b>Calculate the PR14 RCV depreciation with the PR19 run-off rate (weighted average run-off rate for BR and WWN)</b>			
Company type switch	-	0 = WaSC, 1 = WoC	
PR19 RCV balance - Wastewater	-	£m	7,868.90
PR19 RCV depreciation - Wastewater	-	£m	336.18
PR19 Weighted average run-off rate - Wastewater	-	%	4.27%
Company type switch	-	0 = WaSC, 1 = WoC	
PR14 RCV - 201718 year average CPIH deflated - Wastewater	-	£m	7,105.07
PR19 Weighted average run-off rate - Wastewater	-	%	4.27%
PR14 RCV depreciation with PR19 run-off rate - Wastewater	-	£m	303.55
<b>Subtract the 'PR14 RCV depreciation with PR19 run-off rate' from the PR14 RCV depreciation to find the change in the RCV depreciation due to the change in the run-off rate only</b>			
Company type switch	-	0 = WaSC, 1 = WoC	
PR14 RCV depreciation - 201718 year average CPIH deflated - Wastewater	-	£m	360.55
PR14 RCV depreciation with PR19 run-off rate - Wastewater	-	£m	303.55
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	(57.01)
<b>Subtract the impact of the change in run-off rate from the actual change in RCV depreciation to find the change in RCV depreciation due to the change in RCV only</b>			
Company type switch	-	0 = WaSC, 1 = WoC	
Change in RCV depreciation - Wastewater	-	£m	(24.37)
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	(57.01)
Change in RCV depreciation due to change in RCV - Wastewater	-	£m	32.63

**Summary**

## Gather together the components of the change in RCV depreciation for water and wastewater.

Change in RCV depreciation due to change in run-off rate - Water	-	£m	(1.84)	
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	(57.01)	
<b>Change in RCV depreciation due to change in run-off rate</b>		<b>£m</b>	<b>(58.85)</b>	2017/18 year average CPIH deflated
Change in RCV depreciation due to change in RCV - Water	-	£m	66.69	
Change in RCV depreciation due to change in RCV - Wastewater	-	£m	32.63	
<b>Change in RCV depreciation due to change in RCV</b>		<b>£m</b>	<b>99.32</b>	2017/18 year average CPIH deflated

## Checks

PR19 RCV depreciation - Water	-	£m	268.94	
PR14 RCV depreciation - 2017/18 year average CPIH deflated - Water	-	£m	204.09	
Change in RCV depreciation due to change in run-off rate - Water	-	£m	(1.84)	
Change in RCV depreciation due to change in RCV - Water	-	£m	66.69	
Change in Water RCV depreciation check		check	-	
<b>Company type switch</b>				
		-	0 = WaSC, 1 = WoC	
PR19 RCV depreciation - Wastewater	-	£m	336.18	
PR14 RCV depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	360.55	
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	(57.01)	
Change in RCV depreciation due to change in RCV - Wastewater	-	£m	32.63	
Change in Wastewater RCV depreciation check		check	-	

## Change in bill due to change in RETURN ON RCV

## This section calculates the components that cause a change in the return on RCV

## Water

## PR14

PR14 Average 2015 RCV - real - water	-	£m	4,006.88	
PR14 Average RCV; post 2015 additions - real - water	-	£m	1,126.04	
PR14 Total RCV - real - Water		£m	5,132.93	
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Total RCV - real - Water	-	£m	5,132.93	
PR14 Total RCV - 2017/18 year average CPIH deflated - Water		£m	5,890.71	
PR14 Return on 2015 RCV Bf - real - water	-	£m	144.25	
PR14 Return on RCV Additions - real - water	-	£m	40.54	
PR14 Total return on RCV - real - Water		£m	184.79	
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Total return on RCV - real - Water	-	£m	184.79	
PR14 Total Return on RCV - 2017/18 year average CPIH deflated - Water		£m	212.07	

## PR19

## Sum the components for water resources and water network

PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	115.38%	factor	-	
PR19 Average of RCV - CPI(H) bf - WR - nominal	-	£m	152.30	
PR19 Average of RCV - CPI(H) other adjustments balance - WR - nominal	-	£m	-	
PR19 Average of RCV - CPI(H) + RPI wedge bf - WR - nominal	-	£m	146.64	
PR19 Average of RCV post 2020 additions - WR - nominal	-	£m	219.01	
PR19 Average of RCV - CPI(H) bf - WN - nominal	-	£m	2,902.98	
PR19 Average of RCV - CPI(H) other adjustments balance - WN - nominal	-	£m	-	
PR19 Average of RCV - CPI(H) + RPI wedge bf - WN - nominal	-	£m	2,928.72	
PR19 Average of RCV post 2020 additions - WN - nominal	-	£m	2,891.91	
PR19 Total RCV - 2017/18 year average CPIH deflated - Water		£m	8,009.73	
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	115.38%	factor	-	
PR19 Return on RCV - CPI(H) bf - WR - nominal	-	£m	5.03	
PR19 Return on RCV - CPI(H) other adjustments - WR - nominal	-	-	-	
PR19 Return on RCV - CPI(H) + RPI wedge bf - WR - nominal	-	£m	3.37	
PR19 Return on RCV additions - WR - nominal	-	£m	7.24	
PR19 Return on RCV - CPI(H) bf - WN - nominal	-	£m	95.91	
PR19 Return on RCV - CPI(H) other adjustments - WN - nominal	-	£m	-	
PR19 Return on RCV - CPI(H) + RPI wedge bf - WN - nominal	-	£m	67.39	
PR19 Return on RCV additions - WN - nominal	-	£m	95.55	
PR19 Return on RCV - 2017/18 year average CPIH deflated - Water		£m	237.90	

## Subtract the PR19 return on RCV from the PR14 return on RCV to give the actual change in return

PR14 Total Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	212.07	
PR19 Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	237.90	
Change in Return on RCV - Water		£m	25.84	

## Calculate the PR14 return on RCV with the PR19 WACC (weighted average WACC for WR and WN)

PR19 Total RCV - 2017/18 year average CPIH deflated - Water	-	£m	8,009.73	
PR19 Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	237.90	
PR19 PR19 Weighted average WACC - Water		%	2.97%	
PR14 Total RCV - 2017/18 year average CPIH deflated - Water	-	£m	5,890.71	
PR19 PR19 Weighted average WACC - Water	-	%	2.97%	
PR14 Return on RCV with PR19 WACC - Water		£m	174.96	

## Subtract the 'PR14 Return on RCV with PR19 WACC' from the PR14 return on RCV to find the change in the return due to the change in the WACC only

PR14 Total Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	212.07	
PR14 Return on RCV with PR19 WACC - Water	-	£m	174.96	
Change in Return on RCV due to change in WACC - Water		£m	(37.10)	

## Subtract the impact of the change in WACC from the actual change in return on RCV to find the change in return due to the change in RCV only

Change in Return on RCV - Water	-	£m	25.84	
Change in Return on RCV due to change in WACC - Water	-	£m	(37.10)	
Change in Return on RCV due to change in RCV - Water		£m	62.94	

## This section calculates the components that cause a change in the return on RCV

## Wastewater

## PR14

PR14 Average 2015 RCV - real - Wastewater	-	£m	4,332.21	
PR14 Average RCV; post 2015 additions - real - Wastewater	-	£m	1,554.54	
PR14 Total RCV - real - Wastewater		£m	5,886.75	
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Total RCV - real - Wastewater	-	£m	5,886.75	
PR14 Total RCV - 2017/18 year average CPIH deflated - Wastewater		£m	6,755.82	
PR14 Return on 2015 RCV Bf - real - Wastewater	-	£m	155.96	
PR14 Return on RCV Additions - real - Wastewater	-	£m	55.96	
PR14 Total return on RCV - real - Wastewater		£m	211.92	
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Total return on RCV - real - Wastewater	-	£m	211.92	
PR14 Total return on RCV - 2017/18 year average CPIH deflated - Wastewater		£m	243.21	

## PR19

## Sum the components for bio resources and wastewater network

PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	115.38%	factor	-	
PR19 Average of RCV - CPI(H) bf - WWN - nominal	-	£m	2,363.12	
PR19 Average of RCV - CPI(H) other adjustments balance - WWN - nominal	-	£m	-	
PR19 Average of RCV - CPI(H) + RPI wedge bf - WWN - nominal	-	£m	2,336.65	



PR19	Average of RCV post 2020 additions - WWN - nominal	-	£m	2,343.12
PR19	Average of RCV - CPI(H) bf - BR - nominal	-	£m	748.98
PR19	Average of RCV - CPI(H) other adjustments balance - BR - nominal	-	£m	-
PR19	Average of RCV - CPI(H) + RPI wedge bf - BR - nominal	-	£m	736.04
PR19	Average of RCV post 2020 additions - BR - nominal	-	£m	357.23
PR19	Total RCV - 2017/18 year average CPIH deflated - Wastewater		£m	7,700.81
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	115.38%	factor	-
PR19	Return on RCV - CPI(H) bf - WWN - nominal	-	£m	78.08
PR19	Return on RCV - CPI(H) other adjustments - WWN - nominal	-	£m	-
PR19	Return on RCV - CPI(H) + RPI wedge bf - WWN - nominal	-	£m	53.77
PR19	Return on RCV additions - WWN - nominal	-	£m	77.41
PR19	Return on RCV - CPI(H) bf - BR - nominal	-	£m	24.75
PR19	Return on RCV - CPI(H) other adjustments - BR - nominal	-	£m	-
PR19	Return on RCV - CPI(H) + RPI wedge bf - BR - nominal	-	£m	16.94
PR19	Return on RCV additions - BR - nominal	-	£m	11.80
PR19	Return on RCV - 2017/18 year average CPIH deflated - Wastewater		£m	227.72

Subtract the PR19 return on RCV from the PR14 return on RCV to give the actual change in return

	Company type switch	-	0 = WaSC, 1 = WoC	
PR14	Total return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	243.21
PR19	Return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	227.72
	Change in Return on RCV - Wastewater		£m	(15.49)

Calculate the PR14 return on RCV with the PR19 WACC (weighted average WACC for BR and WWN)

	Company type switch	-	0 = WaSC, 1 = WoC	
PR19	Total RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	7,700.81
PR19	Return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	227.72
PR19	PR19 Weighted average WACC - Wastewater		%	2.96%

	Company type switch	-	0 = WaSC, 1 = WoC	
PR14	Total RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	6,755.82
PR19	PR19 Weighted average WACC - Wastewater	-	%	2.96%
PR14	Return on RCV with PR19 WACC - Wastewater		£m	199.77

Subtract the 'PR14 Return on RCV with PR19 WACC' from the PR14 return on RCV to find the change in the return due to the change in the WACC only

	Company type switch	-	0 = WaSC, 1 = WoC	
PR14	Total return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	243.21
	PR14 Return on RCV with PR19 WACC - Wastewater	-	£m	199.77
	Change in Return on RCV due to change in WACC - Wastewater		£m	(43.43)

Subtract the impact of the change in WACC from the actual change in return on RCV to find the change in return due to the change in RCV only

	Company type switch	-	0 = WaSC, 1 = WoC	
	Change in Return on RCV - Wastewater	-	£m	(15.49)
	Change in Return on RCV due to change in WACC - Wastewater	-	£m	(43.43)
	Change in Return on RCV due to change in RCV - Wastewater		£m	27.94

Gather together the components of the change in return on RCV for water and wastewater.

	Change in Return on RCV due to change in WACC - Water	-	£m	(37.10)
	Change in Return on RCV due to change in WACC - Wastewater	-	£m	(43.43)
	<b>Change in return on RCV due to change in WACC</b>		<b>£m</b>	<b>(80.54)</b>

2017/18 year average CPIH deflated

	Change in Return on RCV due to change in RCV - Water	-	£m	62.94
	Change in Return on RCV due to change in RCV - Wastewater	-	£m	27.94
	<b>Change in return on RCV due to change in RCV</b>		<b>£m</b>	<b>90.88</b>

2017/18 year average CPIH deflated

Checks

PR19	Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	237.90
PR14	Total Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	212.07
	Change in Return on RCV due to change in WACC - Water	-	£m	(37.10)
	Change in Return on RCV due to change in RCV - Water	-	£m	62.94
	Change in Water RCV depreciation check		check	-
	Company type switch	-	0 = WaSC, 1 = WoC	
PR19	Return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	227.72
PR14	Total return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	243.21
	Change in Return on RCV due to change in WACC - Wastewater	-	£m	(43.43)
	Change in Return on RCV due to change in RCV - Wastewater	-	£m	27.94
	Change in Wastewater return on RCV check		check	-

End of sheet

## Totex

-	Error chks
93	Track checks

Constant Unit Value Note

### WHOLESALE: Change in bill due to change in PAYG TOTEX

This section calculates the components causing the change in PAYG Totex

#### Water

##### PR14

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14	Totex - real - Water	-	£m	657.01	
PR14	Totex - 2017/18 year average CPIH deflated - Water	-	£m	754.01	

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14	PAYG Totex - real - Water	-	£m	405.14	
PR14	PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	464.95	

##### PR19

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Totex - net of grants and contributions - WR (post sensi adj) - nominal	-	£m	148.76	
PR19	Totex - net of grants and contributions - WR (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	128.93	

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Water resources: PAYG Totex - nominal	-	£m	82.86	
PR19	Water Resources: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	71.82	

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Totex - net of grants and contributions - WN (post sensi adj) - nominal	-	£m	1,097.13	
PR19	Totex - net of grants and contributions - WN (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	950.89	

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Water network: PAYG Totex - nominal	-	£m	469.24	
PR19	Water Network: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	406.70	

PR19	Totex - net of grants and contributions - WR (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	128.93	
PR19	Totex - net of grants and contributions - WN (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	950.89	
PR19	Totex - net of grants and contributions - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	1,079.82	

PR19	Water Resources: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	71.82	
PR19	Water Network: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	406.70	
PR19	PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	478.51	

Subtract the PR19 PAYG Totex from the PR14 PAYG Totex to give the actual change in PAYG Totex

PR14	PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	464.95	
PR19	PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	478.51	
	Change in PAYG Totex - Water	-	£m	13.56	

Calculate the PR14 PAYG Totex with PR19 PAYG% (weighted average PAYG% for WR and WN)

PR19	Totex - net of grants and contributions - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	1,079.82	
PR19	PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	478.51	
PR19	Weighted average PAYG% - active - Water	-	%	44.31%	

PR14	Totex - 2017/18 year average CPIH deflated - Water	-	£m	754.01	
PR19	Weighted average PAYG% - active - Water	-	%	44.31%	
	PR14 PAYG Totex with PR19 PAYG% - Water	-	£m	334.13	

Subtract the 'PR14 PAYG Totex with PR19 PAYG%' from the PR14 PAYG Totex to find the change in the PAYG Totex due to the change in the PAYG% only

PR14	PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	464.95	
	PR14 PAYG Totex with PR19 PAYG% - Water	-	£m	334.13	
	Change in PAYG Totex due to change in PAYG% - Water	-	£m	(130.82)	

Subtract the impact of the change in PAYG% from the actual change in PAYG Totex to find the change in PAYG totex due to the change in Totex only

	Change in PAYG Totex - Water	-	£m	13.56	
	Change in PAYG Totex due to change in PAYG% - Water	-	£m	(130.82)	
	Change in PAYG Totex due to change in Totex - Water	-	£m	144.38	

This section calculates the components causing the change in PAYG Totex

#### Wastewater

##### PR14

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14	Totex - real - Wastewater	-	£m	615.23	
PR14	Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	706.06	

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14	PAYG Totex - real - Wastewater	-	£m	332.30	
PR14	PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	381.36	

##### PR19

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Totex - net of grants and contributions - WWN (post sensi adj) - nominal	-	£m	951.96	
PR19	Totex - net of grants and contributions - WWN (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	825.07	

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Wastewater network: PAYG Totex - nominal	-	£m	413.58	
PR19	Wastewater network: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	358.45	

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Totex - net of grants and contributions - BR (post sensi adj) - nominal	-	£m	144.99	
PR19	Totex - net of grants and contributions - BR (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	125.67	

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19	Bio resources: PAYG Totex - nominal	-	£m	60.32	
PR19	Bio resources: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	52.28	

PR19	Totex - net of grants and contributions - WWN (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	825.07	
PR19	Totex - net of grants and contributions - BR (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	125.67	
PR19	Totex - net of grants and contributions - Wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	950.74	

PR19	Wastewater network: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	358.45	
PR19	Bio resources: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	52.28	
PR19	PAYG Totex - wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	410.73	

Subtract the PR19 PAYG Totex from the PR14 PAYG Totex to give the actual change in PAYG Totex

	Company type switch	-	0 = WaSC, 1 = WoC		
PR14	PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	381.36	
PR19	PAYG Totex - wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	410.73	
	Change in PAYG Totex - Wastewater	-	£m	29.38	

Calculate the PR14 PAYG Totex with PR19 PAYG% (weighted average PAYG% for BR and WWN)

	Company type switch	-	0 = WaSC, 1 = WoC		
PR19	Totex - net of grants and contributions - Wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	950.74	
PR19	PAYG Totex - wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	410.73	

PR19	Weighted average PAYG% - active - Wastewater		%	43.20%	
	Company type switch	-	0 = WaSC, 1 = WoC		
PR14	Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	706.06	
PR19	Weighted average PAYG% - active - Wastewater	-	%	43.20%	
	PR14 PAYG Totex with PR19 PAYG% - Wastewater	-	£m	305.03	
	Subtract the 'PR14 PAYG Totex with PR19 PAYG%' from the PR14 PAYG Totex to find the change in the PAYG Totex due to the change in the PAYG% only				
	Company type switch	-	0 = WaSC, 1 = WoC		
PR14	PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	381.36	
	PR14 PAYG Totex with PR19 PAYG% - Wastewater	-	£m	305.03	
	Change in PAYG Totex due to change in PAYG% - Wastewater	-	£m	(76.33)	
	Subtract the impact of the change in PAYG% from the actual change in PAYG Totex to find the change in PAYG totex due to the change in Totex only				
	Company type switch	-	0 = WaSC, 1 = WoC		
	Change in PAYG Totex - Wastewater	-	£m	29.38	
	Change in PAYG Totex due to change in PAYG% - Wastewater	-	£m	(76.33)	
	Change in PAYG Totex due to change in Totex - Wastewater	-	£m	105.70	
	<b>Summary</b>				
	Gather together the components of the change in PAYG Totex for water and wastewater.				
	Change in PAYG Totex due to change in PAYG% - Water	-	£m	(130.82)	
	Change in PAYG Totex due to change in PAYG% - Wastewater	-	£m	(76.33)	
	<b>Change in PAYG Totex due to change in PAYG%</b>		<b>£m</b>	<b>(207.15)</b>	2017/18 year average CPIH deflated
	Change in PAYG Totex due to change in Totex - Water	-	£m	144.38	
	Change in PAYG Totex due to change in Totex - Wastewater	-	£m	105.70	
	<b>Change in PAYG Totex due to change in Totex</b>		<b>£m</b>	<b>250.09</b>	2017/18 year average CPIH deflated
	<b>Checks</b>				
PR14	PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	464.95	
PR19	PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	478.51	
	Change in PAYG Totex due to change in PAYG% - Water	-	£m	(130.82)	
	Change in PAYG Totex due to change in Totex - Water	-	£m	144.38	
	Change in Water PAYG Totex check		check	-	
	Company type switch	-	0 = WaSC, 1 = WoC		
PR14	PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	381.36	
PR19	PAYG Totex - wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	410.73	
	Change in PAYG Totex due to change in PAYG% - Wastewater	-	£m	(76.33)	
	Change in PAYG Totex due to change in Totex - Wastewater	-	£m	105.70	
	Change in Wastewater PAYG Totex check		check	-	

End of sheet

## Wholesale

-	Error chks
93	Track checks

	Constant	Unit	Value	Note
<b>WHOLESALE: Change in bill due to change in OTHER ITEMS</b>				
<b>Change in revenue re-profiling</b>				
PR14 Revenue requirement including tax charge - real - water	-	£m	771.53	
PR14 Phase 9: Re-profiled allowed revenue - real - water	-	£m	771.53	
PR14 Impact of re-profiling of revenue requirement - real - water		£m	-	
PR14 Revenue requirement including tax charge - real - wastewater	-	£m	1,068.67	
PR14 Phase 9: Re-profiled allowed revenue - real - wastewater	-	£m	1,068.67	
PR14 Impact of re-profiling of revenue requirement - real - wastewater		£m	-	
PR19 Impact of re-profiling of allowed revenue - WR - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - WN - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - WWN - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - BR - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - real		£m	-	
<b>Change in bill due to change in other wholesale items</b>				
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Tax charge - real - water	-	£m	-	
PR14 Pension deficit repair allowance - real - water	-	£m	9.07	
less PR14 Other income (incl 3rd party income) - real - water	-	£m	(5.89)	
PR14 Tax charge - real - wastewater	-	£m	-	
PR14 Pension deficit repair allowance - real - wastewater	-	£m	8.34	
less PR14 Other income (incl 3rd party income) - real - wastewater	-	£m	(11.37)	
PR14 Impact of re-profiling of revenue requirement - real - water	-	£m	-	
PR14 Impact of re-profiling of revenue requirement - real - wastewater	-	£m	-	
PR14 Total of Other Wholesale Items - 2017/18 year average CPIH deflated		£m	0.16	
PR19 Tax WR - real	-	£m	-	
PR19 Wholesale Water resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - WR - real	-	£m	-	
less PR19 Third party & principle service revenues - WR - real	-	£m	(3.85)	
PR19 Tax WN - real	-	£m	-	
PR19 Wholesale Water network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - WN - real	-	£m	-	
less PR19 Third party & principle service revenues - WN - real	-	£m	(5.08)	
PR19 Other Wholesale Items - Water - real		£m	(8.92)	
Company type switch	-	0 = WaSC, 1 = WoC		
PR19 Tax WWN - real	-	£m	-	
PR19 Wholesale Wastewater network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - WWN - real	-	£m	-	
less PR19 Third party & principle service revenues - WWN - real	-	£m	(10.08)	
PR19 Tax BR - real	-	£m	-	
PR19 Wholesale Bio resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - BR - real	-	£m	-	
less PR19 Third party & principle service revenues - BR - real	-	£m	(0.70)	
PR19 Other Wholesale Items - Wastewater - real		£m	(10.77)	
PR19 Other Wholesale Items - Water - real	-	£m	(8.92)	
PR19 Other Wholesale Items - Wastewater - real	-	£m	(10.77)	
PR19 Impact of re-profiling of allowed revenue - real	-	£m	-	
PR19 Total of Other Wholesale Items - real		£m	(19.70)	
PR14 Total of Other Wholesale Items - 2017/18 year average CPIH deflated	-	£m	0.16	
PR19 Total of Other Wholesale Items - real	-	£m	(19.70)	
Change in other wholesale items		£m	(19.86)	2017/18 year average CPIH deflated

## End of sheet

## Water

PR14 Total of Other Wholesale Items - 2017/18 year average CPIH deflated	-	£m	3.65	
PR19 Total of Other Wholesale Items - real	-	£m	(8.92)	
Change in other wholesale items		£m	(12.57)	

## Wastewater

PR14 Total of Other Wholesale Items - 2017/18 year average CPIH deflated	-	£m	(3.48)	
PR19 Total of Other Wholesale Items - real	-	£m	(10.77)	
Change in other wholesale items		£m	(7.29)	

Check

-

# Reconciliation

-	Error chks
93	Track checks

	Constant	Unit	Value	Note
<b>WHOLESALE: Change in bill due to change in RECONCILIATION ITEMS</b>				
Sum the PR14 wholesale reconciliation items (there are no retail reconciliation items for PR14)				
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 SIM adjustment (+ or -) - real - Water	-	£m	(8.18)	
PR14 Opex incentive allowance (+ only) - real - Water	-	£m	-	
PR14 CIS adjustment (+ or -) - real - Water	-	£m	(3.23)	
PR14 RCM adjustment (+ or -) - real - Water	-	£m	8.15	
PR14 Equity injection clawback (- only) - real - Water	-	£m	-	
PR14 Tax refinancing benefit clawback (- only) - real - Water	-	£m	-	
PR14 Outcome delivery incentive (+ or -) - real - Water	-	£m	-	
PR14 Totex menu additional income (+ or -) - real - Water	-	£m	3.84	
PR14 Other tax adjustments (+ or -) Value Chosen - real - Water	-	£m	-	
PR14 Other adjustments (+ or -) Value Chosen - real - Water	-	£m	-	
PR14 SIM adjustment (+ or -) - real - Wastewater	-	£m	(8.66)	
PR14 Opex incentive allowance (+ only) - real - Wastewater	-	£m	-	
PR14 CIS adjustment (+ or -) - real - Wastewater	-	£m	(15.50)	
PR14 RCM adjustment (+ or -) - real - Wastewater	-	£m	14.73	
PR14 Equity injection clawback (- only) - real - Wastewater	-	£m	-	
PR14 Tax refinancing benefit clawback (- only) - real - Wastewater	-	£m	-	
PR14 Outcome delivery incentive (+ or -) - real - Wastewater	-	£m	-	
PR14 Totex menu additional income (+ or -) - real - Wastewater	-	£m	1.49	
PR14 Other tax adjustments (+ or -) Value Chosen - real - Wastewater	-	£m	-	
PR14 Other adjustments (+ or -) Value Chosen - real - Wastewater	-	£m	-	
PR14 PR14 reconciliation items - 2017/18 year average CPIH deflated		£m	(8.43)	
Sum the PR19 wholesale reconciliation items (the retail SIM adjustment is dealt with on sheet 'Summary_Calc')				
PR19 Water resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Water resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Water resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	0.18	
PR19 Water network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	(15.34)	
PR19 Water network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	(2.01)	
PR19 Water network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	12.60	
PR19 Water network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - Blind year (+ or -) Value Chosen - active - real	-	£m	(0.30)	
PR19 Water network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	(2.40)	
PR19 Wastewater network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	0.66	
PR19 Wastewater network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	4.08	
PR19 Wastewater network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - Blind year (+ or -) Value Chosen - active - real	-	£m	(5.53)	
PR19 Wastewater network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Bio resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Bio resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 PR19 wholesale reconciliation items - real		£m	(8.06)	
PR14 PR14 reconciliation items - 2017/18 year average CPIH deflated	-	£m	(8.43)	
PR19 PR19 wholesale reconciliation items - real	-	£m	(8.06)	
Change in wholesale reconciliation items		£m	0.38	2017/18 year average CPIH deflated

## End of sheet

### Water

PR14 PR14 reconciliation items - 2017/18 year average CPIH deflated	-	£m	0.67
PR19 PR19 wholesale reconciliation items - real	-	£m	(4.87)
Change in wholesale reconciliation items		£m	(5.54)

### Wastewater

PR14 PR14 reconciliation items - 2017/18 year average CPIH deflated	-	£m	(9.11)
PR19 PR19 wholesale reconciliation items - real	-	£m	(3.19)
Change in wholesale reconciliation items		£m	5.92

Check			0.00
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# Retail

-	Error chks
93	Track checks

Constant      Unit      Value      Note

**RETAIL: Change in bill due to change in COST TO SERVE**

**Change in bill due to change in retail CTS**

Note: In the PR14 model wholesale prices are indexed but retail prices are not indexed.

Company type switch	-	0 = WaSC, 1 = WoC		
PR14 Retail allowed revenue per customer: single service	-	£	27.09	
PR14 Retail allowed revenue per customer: joint services	-	£	35.22	
PR14 Retail allowed revenue per customer		£	35.22	
Company type switch	-	0 = WaSC, 1 = WoC		
PR19 Retail allowed revenue per customer: single service - real	-	£	15.33	
PR19 Retail allowed revenue per customer: joint service - real	-	£	31.30	
PR19 Retail allowed revenue per customer		£	31.30	
PR14 Retail allowed revenue per customer	-	£	35.22	
PR19 Retail allowed revenue per customer	-	£	31.30	
<b>Change in retail CTS</b>		£	(0.38)	2017/18 year average CPIH deflated

**End of sheet**

## Customers

-	Error chks
93	Track checks

Constant Unit Value Note

### WHOLESALE: Change in bill due to change in CUSTOMER NUMBERS and APPORTIONMENT

#### Change in bill due to change in customer numbers

This section calculates the PR14 customer numbers and indexes the allowed revenue

PR14	Constant	Unit	Value	Note
PR14 Households connected for water and wastewater - unmetered	-	000s	1,693.79	
PR14 Households connected for water and wastewater - metered	-	000s	1,863.74	
PR14 Total households - Water & Wastewater		000s	3,557.52	
PR14 Water: Number of unmeasured households	-	000s	32.14	
PR14 Water: Number of measured households	-	000s	15.45	
PR14 Total households - Water only		000s	47.60	
PR14 Wastewater: Number of unmeasured households	-	000s	637.14	
PR14 Wastewater: Number of measured households with standing charge	-	000s	1,342.69	
PR14 Total households - Wastewater only		000s	1,979.83	
PR14 Total households - Water & Wastewater	-	000s	3,557.52	
PR14 Total households - Water only	-	000s	47.60	
PR14 Total households - Water		000s	3,605.12	
PR14 Total households - Water & Wastewater	-	000s	3,557.52	
PR14 Total households - Wastewater only	-	000s	1,979.83	
PR14 Total households - Wastewater		000s	5,537.35	
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Wholesale water allowed revenue per customer excluding capital connection charges, other income and operating income	-	£	168.19	
PR14 Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated - water		£m	193.02	
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-	
PR14 Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income	-	£	158.26	
PR14 Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated - Wastewater		£m	181.62	

This section calculates the PR19 customer numbers and indexes the nominal revenue requirement

PR19	Constant	Unit	Value	Note
PR19 Households connected for water only - unmetered	-	000s	18.93	
PR19 Households connected for water only - metered	-	000s	33.75	
PR19 Total households - Water only		000s	52.68	
PR19 Households connected for water and sewerage - unmetered	-	000s	1,501.17	
PR19 Households connected for water and sewerage - metered	-	000s	2,208.90	
PR19 Total households - Water & Wastewater		000s	3,710.07	
PR19 Households connected for sewerage only - unmetered	-	000s	553.09	
PR19 Households connected for sewerage only - metered	-	000s	1,526.12	
PR19 Total households - Wastewater only		000s	2,079.20	
PR19 Total households - Water only	-	000s	52.68	
PR19 Total households - Water & Wastewater	-	000s	3,710.07	
PR19 Total households - Water		000s	3,762.75	
PR19 Total households - Wastewater only	-	000s	2,079.20	
PR19 Total households - Water & Wastewater	-	000s	3,710.07	
PR19 Total households - Wastewater		000s	5,789.27	
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WR - nominal	-	£m	115.07	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WR - 2017/18 year average CPIH deflated		£m	99.74	
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WN - nominal	-	£m	1,005.90	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WN - 2017/18 year average CPIH deflated		£m	871.82	
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WWN - nominal	-	£m	905.29	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WWN - 2017/18 year average CPIH deflated		£m	784.62	
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1538	factor	-	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - BR - nominal	-	£m	203.12	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - BR - 2017/18 year average CPIH deflated		£m	176.05	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WR - 2017/18 year average CPIH deflated	-	£m	99.74	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WN - 2017/18 year average CPIH deflated	-	£m	871.82	
PR19 Total revenue requirement - water - 2017/18 year average CPIH deflated		£m	971.56	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WWN - 2017/18 year average CPIH deflated	-	£m	784.62	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - BR - 2017/18 year average CPIH deflated	-	£m	176.05	
PR19 Total revenue requirement - wastewater - 2017/18 year average CPIH deflated		£m	960.67	

This section calculates the change in the bill due to the change in customer numbers and apportionment

#### Water

Calculate the weighted average apportionment for water (water resources and water network)

PR19 Total revenue requirement - water - 2017/18 year average CPIH deflated	-	£m	971.56	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WR - 2017/18 year average CPIH deflated	-	£m	99.74	
PR19 Water resources - residential apportionment CALC	-	%	76.60%	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WN - 2017/18 year average CPIH deflated	-	£m	871.82	
PR19 Water network - residential apportionment CALC	-	%	75.57%	
PR19 Weighted average residential apportionment - Water	-	%	75.68%	

Calculate the % change in customer numbers and apportionment combined

PR14 Total households - Water	-	000s	3,605.12	
PR19 Total households - Water	-	000s	3,762.75	
PR19 households as a % of PR14 households - Water		000s	104.37%	
PR14 Wholesale Water - household apportionment calculated	-	%	78.59%	
PR19 Weighted average residential apportionment - Water	-	%	75.68%	
PR19 apportionment as a % of PR14 apportionment - Water		000s	96.30%	
PR19 households as a % of PR14 households - Water	-	000s	1.04	
PR19 apportionment as a % of PR14 apportionment - Water	-	000s	0.96	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment		%	92.26%	
PR14 Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated - water	-	£m	193.02	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment	-	%	92.26%	
Change in wholesale water allowed revenue per customer due to change in customer numbers and apportionment		£m	(14.93)	

This section calculates the change in the bill due to the change in customer numbers and apportionment

#### Wastewater

Calculate the weighted average apportionment for wastewater (bio resources and wastewater network)

Company type switch	-	0 = WaSC, 1 = WoC		
PR19 Total revenue requirement - wastewater - 2017/18 year average CPIH deflated	-	£m	960.67	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WWN - 2017/18 year average CPIH deflated	-	£m	784.62	

PR19 Wastewater network - residential apportionment CALC	-	%	80.43%	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - BR - 2017/18 year average CPIH deflated	-	£m	176.05	
PR19 Bio resources - residential apportionment CALC	-	%	80.43%	
PR19 Weighted average residential apportionment - Wastewater	-	%	80.43%	
<b>Calculate the % change in customer numbers and apportionment combined</b>				
Company type switch	-	0 = WaSC, 1 = WoC		
PR14 Total households - Wastewater	-	000s	5,537.35	
PR19 Total households - Wastewater	-	000s	5,789.27	
PR19 households as a % of PR14 households - Wastewater	-	%	104.55%	
<b>Company type switch</b>				
PR14 Wholesale Wastewater - household apportionment calculated	-	%	82.00%	
PR19 Weighted average residential apportionment - Wastewater	-	%	80.43%	
PR19 apportionment as a % of PR14 apportionment - Wastewater	-	%	98.08%	
<b>Company type switch</b>				
PR19 households as a % of PR14 households - Wastewater	-	%	104.55%	
PR19 apportionment as a % of PR14 apportionment - Wastewater	-	%	98.08%	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment	-	%	93.81%	
PR14 Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated - Wastewater	-	£m	181.62	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment	-	%	93.81%	
Change in wholesale wastewater allowed revenue per customer due to change in customer numbers and apportionment	-	£m	(11.24)	
<b>Sum the change due to customer numbers for water and wastewater.</b>				
Change in wholesale water allowed revenue per customer due to change in customer numbers and apportionment	-	£m	(14.93)	
Change in wholesale wastewater allowed revenue per customer due to change in customer numbers and apportionment	-	£m	(11.24)	
<b>Change in customer numbers and residential apportionment</b>	-	£	<b>(26.17)</b>	2017/18 year average CPIH deflated
<b>End of sheet</b>				
Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated - TTT only (2012/13 prices)			32.76	
Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated - excl TTT (2012/13 prices)			125.50	
Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476			
Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated - TTT only (2017/18 CPIH prices)			37.60	
Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated - excl TTT (2017/18 CPIH prices)			144.02	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment			93.81%	
Change in wholesale wastewater allowed revenue per customer due to change in customer numbers and apportionment - TTT only			(2.33)	
Change in wholesale wastewater allowed revenue per customer due to change in customer numbers and apportionment - excl TTT			(8.91)	
Change in wholesale wastewater allowed revenue per customer due to change in customer numbers and apportionment - Total incl TTT			(11.24)	
Check			-	



## Summary\_Calc

-	Error chks
93	Track checks

Constant Unit Value Note

## SUMMARY OF COMPONENTS CAUSING CHANGE IN BILL

Note: In the PR14 model wholesale prices are indexed but retail prices are not indexed.

Deflate the wholesale allowed revenue, then add to the real retail allowed revenue to calculate the combined bill

PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14 Wholesale water allowed revenue per customer excluding capital connection charges, other income and operating income	-	£	168.19
PR14 Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	193.02
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1476	factor	-
PR14 Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income	-	£	158.26
PR14 Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	181.62
Company type switch	-	0 = WaSC, 1 = WoC	-
PR14 Retail allowed revenue per customer: single service	-	£	27.09
PR14 Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	193.02
PR14 Retail allowed revenue per customer: joint services	-	£	35.22
PR14 Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	181.62
PR14 Average combined bill - 2017/18 year average CPIH deflated	-	£	409.86
Company type switch	-	0 = WaSC, 1 = WoC	-
PR19 WoC average bill - real	-	£	-
PR19 WaSC average bill - real	-	£	378.08
PR19 Average bill - real	-	£	378.08
PR14 Average combined bill - 2017/18 year average CPIH deflated	-	£	409.86
PR19 Average bill - real	-	£	378.08
Change in average combined bill	-	£	(31.78)
PR14 Wholesale dummy control allowed revenue - real	-	£/cust	35.27
PR19 Wholesale dummy control allowed revenue (excluding capital connection charges, other income and operating income) per residential customer - real	-	£	17.91
Change in wholesale dummy control allowed revenue	-	£	(17.37)

## \*\*\*\*\* Calculate the change in the bill due to all other wholesale components, £ per customer \*\*\*\*\*

Change in average combined bill	-	£	(31.78)	Water		
Change in customer numbers and residential apportionment	-	£	(26.17)			
Change in retail CTS	-	£	(0.38)			
PR19 Residential retail revenue adjustment per customer - real	-	£ / cust	(3.532)			
Change in wholesale dummy control allowed revenue	-	£	(17.369)			
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.675		17.323	(1,648) 1

Wholesale components have been calculated as £m, apportion them to get £ per customer

Change in PAYG Totex due to change in PAYG%	-	£m	(207.15)		(130.82)	(76.33)	(2)
Change in PAYG Totex due to change in Totex	-	£m	250.09		144.38	105.70	2
Change in RCV depreciation due to change in run-off rate	-	£m	(58.85)		(1.84)	(57.01)	(
Change in RCV depreciation due to change in RCV	-	£m	99.32		66.69	32.63	(
Change in return on RCV due to change in WACC	-	£m	(80.54)		(37.10)	(43.43)	(
Change in return on RCV due to change in RCV	-	£m	90.88		62.94	27.94	(
Change in other wholesale items	-	£m	(19.86)		(12.57)	(7.29)	(
Change in wholesale reconciliation items	-	£m	0.38		(5.54)	5.92	(
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	(
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in PAYG Totex due to change in PAYG%	-	£m	(207.15)		(130.82)	(76.33)	(2)
Change in PAYG% (per customer)	-	£	(36.92)		(26.31)	(10.60)	(
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in PAYG Totex due to change in Totex	-	£m	250.09		144.38	105.70	2
Change in Totex (per customer)	-	£	43.72		29.04	14.69	
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in RCV depreciation due to change in run-off rate	-	£m	(58.85)		(1.84)	(57.01)	(
Change in Run-off rate (per customer)	-	£	(8.29)		(0.37)	(7.92)	(
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in RCV depreciation due to change in RCV	-	£m	99.32		66.69	32.63	
Change in RCV depreciation due to change in RCV (per customer)	-	£	17.95		13.41	4.53	
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in return on RCV due to change in WACC	-	£m	(80.54)		(37.10)	(43.43)	(
Change in WACC (per customer)	-	£	(13.50)		(7.46)	(6.03)	(
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in return on RCV due to change in RCV	-	£m	90.88		62.94	27.94	
Change in Return on RCV due to change in RCV (per customer)	-	£	16.54		12.66	3.88	
Change in RCV depreciation due to change in RCV (per customer)	-	£	17.95				
Change in Return on RCV due to change in RCV (per customer)	-	£	16.54				
Change in RCV (per customer)	-	£	34.49				
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in other wholesale items	-	£m	(19.86)		(12.57)	(7.29)	(
Change in Other wholesale items (per customer)	-	£	(3.54)		(2.53)	(1.01)	(
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68		17.32	(1.65)	
Change due to all wholesale changes except customer numbers	-	£m	74.27		86.13	(11.86)	
Change in wholesale reconciliation items	-	£m	0.38		(5.54)	5.92	
Change in Wholesale reconciliations items (per customer)	-	£	(0.29)		(1.11)	0.82	
Change in Wholesale reconciliations items (per customer)	-	£	(0.29)				
PR19 Residential retail revenue adjustment per customer - real	-	£ / cust	(3.53)				
Change in Reconciliations items (per customer)	-	£	(3.82)				
Change in wholesale dummy control allowed revenue	-	£	(17.37)				
Change in 5th control	-	£	-1737%				
Change in RCV	-	£	34.49				
Change in Totex	-	£	43.72				
Change in PAYG%	-	£	(36.92)				
Change in Run-off rate	-	£	(8.29)				
Change in WACC	-	£	(13.50)				
Change in Other wholesale items	-	£	(3.54)				
Change in Reconciliations items	-	£	(3.82)				
Change due to all wholesale changes except customer numbers (per customer)	-	£	12.14				
Change due to all wholesale changes except customer numbers (per customer)	-	£	15.68				
Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	15.68				
Sum of wholesale items after apportionment equals change in customer bill less retail items	-	check	-				

End of sheet

## Alternative calculation of bill impact

Change due to changes in the components of wholesale allowed revenue (per customer)

Change due to changes in the components of wholesale allowed revenue (per customer)	15.675
<b>Revenue changes - Total</b>	
Change in PAYG Totex due to change in PAYG%	(207.150)
Change in PAYG Totex due to change in Totex	250.087
Change in RCV depreciation due to change in run-off rate	(58.849)
Change in RCV depreciation due to change in RCV	99.319
Change in return on RCV due to change in WACC	(80.537)
Change in return on RCV due to change in RCV	90.882
Change in other wholesale items	(19.860)
Change in wholesale reconciliation items	0.375
Change due to all wholesale changes except customer numbers	74.269
<b>Revenue changes - Water</b>	
Change in PAYG Totex due to change in PAYG%	(130.821)
Change in PAYG Totex due to change in Totex	144.382
Change in RCV depreciation due to change in run-off rate	(1.843)
Change in RCV depreciation due to change in RCV	66.686
Change in return on RCV due to change in WACC	(37.102)
Change in return on RCV due to change in RCV	62.938
Change in other wholesale items	(12.569)
Change in wholesale reconciliation items	(5.544)
Change due to all wholesale changes except customer numbers	86.129
<b>Revenue changes - Wastewater</b>	
Change in PAYG Totex due to change in PAYG%	(76.329)
Change in PAYG Totex due to change in Totex	105.705
Change in RCV depreciation due to change in run-off rate	(57.005)
Change in RCV depreciation due to change in RCV	32.633

Change in return on RCV due to change in WACC	(43.435)
Change in return on RCV due to change in RCV	27.944
Change in other wholesale items	(7.291)
Change in wholesale reconciliation items	5.919
Change due to all wholesale changes except customer numbers	(11.859)
<b>Revenue changes - Check</b>	
Change in PAYG Totex due to change in PAYG%	-
Change in PAYG Totex due to change in Totex	-
Change in RCV depreciation due to change in run-off rate	-
Change in RCV depreciation due to change in RCV	-
Change in return on RCV due to change in WACC	-
Change in return on RCV due to change in RCV	-
Change in other wholesale items	-
Change in wholesale reconciliation items	0.000
Change due to all wholesale changes except customer numbers	0.000
PR19 Weighted average residential apportionment - Water	75.68%
PR19 Total households - Water	3,762,746
Factor to convert revenue into bills - Water	0.201
PR19 Weighted average residential apportionment - Wastewater	80.43%
PR19 Total households - Wastewater	5,789,272
Factor to convert revenue into bills - Wastewater	0.139
<b>Bill changes - Water</b>	
Change in PAYG Totex due to change in PAYG%	(26.311)
Change in PAYG Totex due to change in Totex	29.039
Change in RCV depreciation due to change in run-off rate	(0.371)
Change in RCV depreciation due to change in RCV	13.412
Change in return on RCV due to change in WACC	(7.462)
Change in return on RCV due to change in RCV	12.658
Change in other wholesale items	(2.528)
Change in wholesale reconciliation items	(1.115)
Change due to all wholesale changes except customer numbers	17.323
<b>Bill changes - Wastewater</b>	
Change in PAYG Totex due to change in PAYG%	(10.604)
Change in PAYG Totex due to change in Totex	14.685
Change in RCV depreciation due to change in run-off rate	(7.920)
Change in RCV depreciation due to change in RCV	4.534
Change in return on RCV due to change in WACC	(6.034)
Change in return on RCV due to change in RCV	3.882
Change in other wholesale items	(1.013)
Change in wholesale reconciliation items	0.822
Change due to all wholesale changes except customer numbers	(1.648)
<b>Bill changes - Total</b>	
Change in PAYG Totex due to change in PAYG%	(36.915)
Change in PAYG Totex due to change in Totex	43.724
Change in RCV depreciation due to change in run-off rate	(8.290)
Change in RCV depreciation due to change in RCV	17.946
Change in return on RCV due to change in WACC	(13.496)
Change in return on RCV due to change in RCV	16.541
Change in other wholesale items	(3.541)
Change in wholesale reconciliation items	(0.293)
Change due to all wholesale changes except customer numbers	15.675
Check	0.000

# GraphData

[Do not insert rows or columns anywhere on this sheet]

## DATA FOR BRIDGE CHART

Price base is 2017/18 year average CPIH deflated

Change in average residential bill (combined for WaSCs), £

	Values	Ends	Blank	Up > 0	Up < 0	Down > 0	Down < 0
2019/20 average residential bill	410	410					
Change in RCV	RCV	34		410	34	-	-
Change in Totex	Totex	44		444	44	-	-
Change in PAYG%	PAYG%	(37)		451	-	-	37
Change in Run-off rate	Run-off rate	(8)		443	-	-	8
Change in WACC	WACC	(13)		429	-	-	13
Change in Other wholesale items	Other wholesale items	(4)		426	-	-	4
Change in Reconciliations items	Reconciliations items	(4)		422	-	-	4
Change in 5th control	5th control	(17)		405	-	-	17
Change in retail CTS	retail CTS	(0)		404	-	-	0
Change in customer numbers and residential apportionment	customer numbers and residential apportionment	(26)		378	-	-	26
2024/25 average residential bill			378				

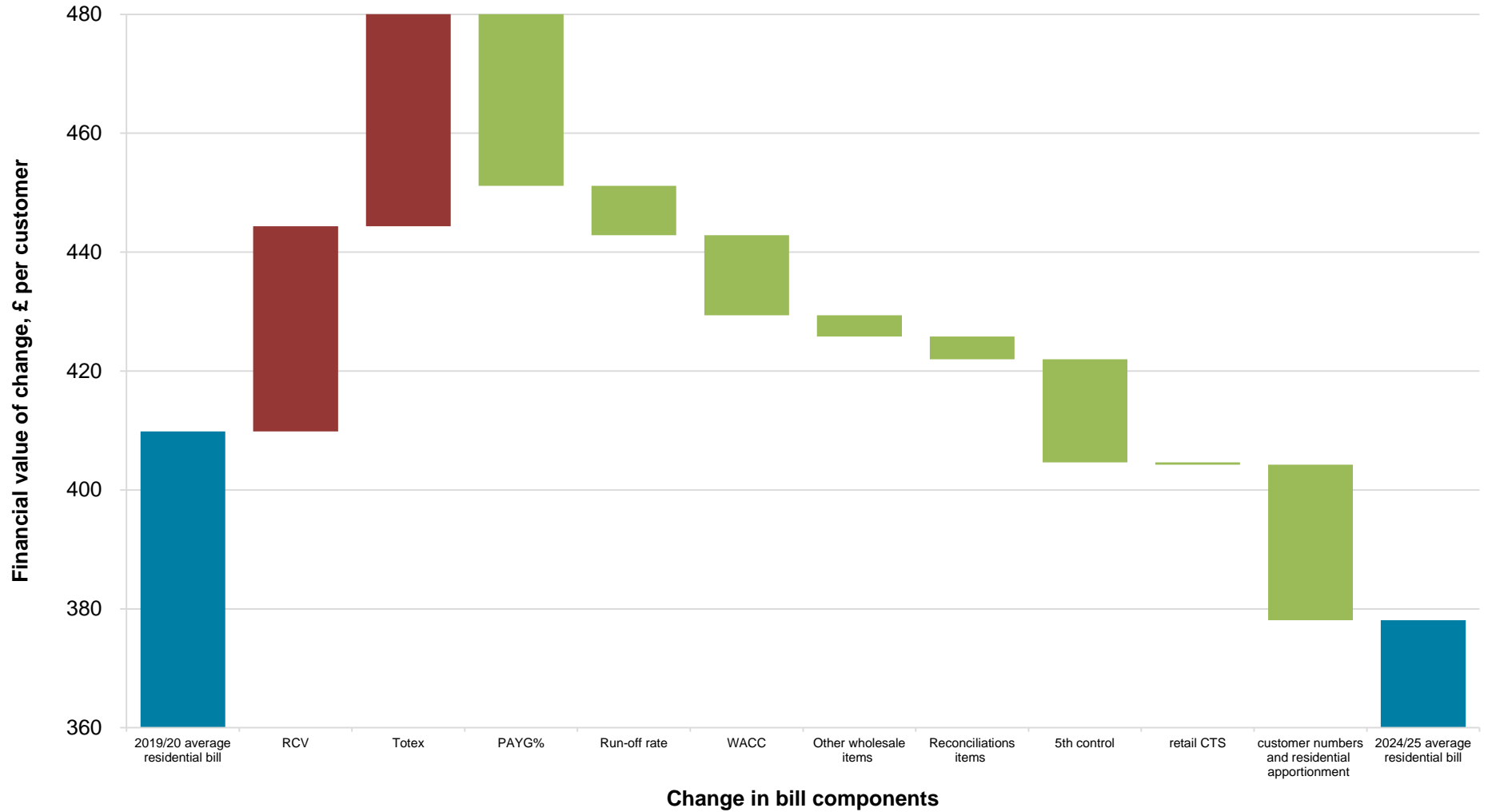
\* Ofwat calculates the return on RCV using a real WACC. Ofwat used a WACC expressed in real RPI terms for PR14 returns, while it is using a WACC expressed in real CPIH terms for PR19 calculations. The use of the real CPIH terms WACC reduces the fall in bills at PR19 from lowering the nominal WACC. This is because the real CPIH terms WACC is around one percent higher than the WACC expressed in real RPI terms.

The waterfall chart reads the axes extents from this block

Axis	X	Y	Rounding
Maximum bill, rounded up to nearest 40		480.00	40
Minimum bill, rounded down to nearest 40		360.00	40
Tick	1	1	

End of sheet

### Bill movement between PR14 and PR19



\* Ofwat calculates the return on RCV using a real WACC. Ofwat used a WACC expressed in real RPI terms for PR14 returns, while it is using a WACC expressed in real CPIH terms for PR19 calculations. The use of the real CPIH terms WACC reduces the fall in bills at PR19 from lowering the nominal WACC. This is because the real CPIH terms WACC is around one percent higher than the WACC expressed in real RPI terms.

# Track

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-	Checks	93
93	Track chgs	

Comparison column label	Unit	Nil inputs	2	Difference	Diff %	Nil inputs
[do not delete row]						
<b>INPUTS</b>						
<b>Retail</b>						
PR19 Retail allowed revenue per customer: single service - real	- £	15.33	1	15.33	-	-
<b>Customer Numbers and apportionment</b>						
PR19 Households connected for water only - unmetered	- 000s	18.93	1	18.93	-	-
PR19 Households connected for water only - metered	- 000s	33.75	1	33.75	-	-
PR19 Households connected for sewerage only - unmetered	- 000s	553.09	1	553.09	-	-
PR19 Households connected for sewerage only - metered	- 000s	1,526.12	1	1,526.12	-	-
PR19 Households connected for water and sewerage - unmetered	- 000s	1,501.17	1	1,501.17	-	-
PR19 Households connected for water and sewerage - metered	- 000s	2,208.90	1	2,208.90	-	-
PR19 Water resources- residential apportionment CALC	- %	76.60%	1	76.60%	-	-
PR19 Water network - residential apportionment CALC	- %	75.57%	1	75.57%	-	-
PR19 Wastewater network - residential apportionment CALC	- %	80.43%	1	80.43%	-	-
PR19 Bio resources - residential apportionment CALC	- %	80.43%	1	80.43%	-	-
<b>Totex</b>						
PR19 Totex - net of grants and contributions - WR (post sensi adj) - nominal	- £m	148.76	1	148.76	-	-
PR19 Totex - net of grants and contributions - WN (post sensi adj) - nominal	- £m	1,097.13	1	1,097.13	-	-
PR19 Totex - net of grants and contributions - WWN (post sensi adj) - nominal	- £m	951.96	1	951.96	-	-
PR19 Totex - net of grants and contributions - BR (post sensi adj) - nominal	- £m	144.99	1	144.99	-	-
PR19 PAYG% - water resources - active - WR	- %	55.70%	1	55.70%	-	-
PR19 PAYG% - water network - active - WN	- %	42.77%	1	42.77%	-	-
PR19 PAYG% - wastewater network - active - WWN	- %	43.45%	1	43.45%	-	-
PR19 PAYG% - bio resources - active - BR	- %	41.60%	1	41.60%	-	-
<b>RCV depreciation</b>						
PR19 RCV CPI(H) bf balance BEG - WR - nominal	- £m	151.16	1	151.16	-	-
PR19 Water resources: Non-PAYG Totex - nominal	- £m	65.90	1	65.90	-	-
PR19 RCV CPI(H) bf balance BEG - WN - nominal	- £m	2,899.45	1	2,899.45	-	-
PR19 Water network: Non-PAYG Totex - nominal	- £m	627.89	1	627.89	-	-
PR19 RCV CPI(H) bf balance BEG - WWN - nominal	- £m	2,371.75	1	2,371.75	-	-
PR19 Wastewater network: Non-PAYG Totex - nominal	- £m	538.38	1	538.38	-	-
PR19 RCV CPI(H) bf balance BEG - BR - nominal	- £m	746.83	1	746.83	-	-
PR19 Bio resources: Non-PAYG Totex - nominal	- £m	84.68	1	84.68	-	-
PR19 Run-off rate - CPI(H) - active - WR	- %	2.44%	1	2.44%	-	-
PR19 Run-off rate - CPI(H) + RPI wedge - active - WR	- %	4.25%	1	4.25%	-	-
PR19 Run-off rate - RCV additions - active - WR	- %	4.76%	1	4.76%	-	-
PR19 Run-off rate - CPI(H) - active - WN	- %	3.68%	1	3.68%	-	-
PR19 Run-off rate - CPI(H) + RPI wedge - active - WN	- %	2.43%	1	2.43%	-	-
PR19 Run-off rate - RCV additions - active - WN	- %	3.68%	1	3.68%	-	-
PR19 Run-off rate - CPI(H) - active - WWN	- %	4.63%	1	4.63%	-	-
PR19 Run-off rate - CPI(H) + RPI wedge - active - WWN	- %	3.14%	1	3.14%	-	-
PR19 Run-off rate - RCV additions - active - WWN	- %	4.63%	1	4.63%	-	-
PR19 Run-off rate - CPI(H) - active - BR	- %	-	-	-	-	-
PR19 Run-off rate - CPI(H) + RPI wedge - active - BR	- %	4.72%	1	4.72%	-	-
PR19 Run-off rate - RCV additions - active - BR	- %	7.80%	1	7.80%	-	-
<b>Retrun on RCV</b>						
PR19 Average of RCV - CPI(H) bf - WR - nominal	- £m	152.30	1	152.30	-	-
PR19 Average of RCV post 2020 additions - WR - nominal	- £m	219.01	1	219.01	-	-
PR19 Average of RCV - CPI(H) bf - WN - nominal	- £m	2,902.98	1	2,902.98	-	-
PR19 Average of RCV post 2020 additions - WN - nominal	- £m	2,891.91	1	2,891.91	-	-
PR19 Average of RCV - CPI(H) bf - WWN - nominal	- £m	2,363.12	1	2,363.12	-	-
PR19 Average of RCV post 2020 additions - WWN - nominal	- £m	2,343.12	1	2,343.12	-	-
PR19 Average of RCV - CPI(H) bf - BR - nominal	- £m	748.98	1	748.98	-	-
PR19 Average of RCV post 2020 additions - BR - nominal	- £m	357.23	1	357.23	-	-
PR19 Return on RCV - CPI(H) bf - WR - nominal	- £m	5.03	1	5.03	-	-
PR19 Return on RCV - CPI(H) + RPI wedge bf - WR - nominal	- £m	3.37	1	3.37	-	-
PR19 Return on RCV additions - WR - nominal	- £m	7.24	1	7.24	-	-
PR19 Return on RCV - CPI(H) bf - WN - nominal	- £m	95.91	1	95.91	-	-
PR19 Return on RCV - CPI(H) + RPI wedge bf - WN - nominal	- £m	67.39	1	67.39	-	-
PR19 Return on RCV additions - WN - nominal	- £m	95.55	1	95.55	-	-
PR19 Return on RCV - CPI(H) bf - WWN - nominal	- £m	78.08	1	78.08	-	-
PR19 Return on RCV - CPI(H) + RPI wedge bf - WWN - nominal	- £m	53.77	1	53.77	-	-
PR19 Return on RCV additions - WWN - nominal	- £m	77.41	1	77.41	-	-
PR19 Return on RCV - CPI(H) bf - BR - nominal	- £m	24.75	1	24.75	-	-
PR19 Return on RCV - CPI(H) + RPI wedge bf - BR - nominal	- £m	16.94	1	16.94	-	-
PR19 Return on RCV additions - BR - nominal	- £m	11.80	1	11.80	-	-
PR19 WACC real on RCV - CPI(H) bf and additions - WR	- %	3.30%	1	3.30%	-	-
PR19 WACC on RCV - CPI(H) + RPI wedge bf and additions - WR	- %	2.30%	1	2.30%	-	-
PR19 WACC real on RCV - CPI(H) bf and additions - WN	- %	3.30%	1	3.30%	-	-
PR19 WACC on RCV - CPI(H) + RPI wedge bf and additions - WN	- %	2.30%	1	2.30%	-	-
PR19 WACC real on RCV - CPI(H) bf and additions - WWN	- %	3.30%	1	3.30%	-	-
PR19 WACC on RCV - CPI(H) + RPI wedge bf and additions - WWN	- %	2.30%	1	2.30%	-	-
PR19 WACC real on RCV - CPI(H) bf and additions - BR	- %	3.30%	1	3.30%	-	-
PR19 WACC on RCV - CPI(H) + RPI wedge bf and additions - BR	- %	2.30%	1	2.30%	-	-
<b>Component Movement Summary</b>						
Change in customer numbers and residential apportionment	- £	(26.17)	1	(26.17)	-	-
Change in retail CTS	- £	(0.38)	1	(0.38)	-	-
Change in PAYG Totex due to change in PAYG%	- £m	(207.15)	1	(207.15)	-	-
Change in PAYG Totex due to change in Totex	- £m	250.09	1	250.09	-	-
Change in RCV depreciation due to change in run-off rate	- £m	(58.85)	1	(58.85)	-	-
Change in RCV depreciation due to change in RCV	- £m	99.32	1	99.32	-	-
Change in return on RCV due to change in WACC	- £m	(80.54)	1	(80.54)	-	-
Change in return on RCV due to change in RCV	- £m	90.88	1	90.88	-	-
Change in other wholesale items	- £m	(19.86)	1	(19.86)	-	-
Change in wholesale reconciliation items	- £m	0.38	1	0.38	-	-
Change in 5th control	- £	(17.37)	1	(17.37)	-	-
Residential retail revenue adjustment per customer - real	- £ / cust	(3.53)	1	(3.53)	-	-
Change due to all wholesale changes except customer numbers	- £m	74.27	1	74.27	-	-
<b>Bill Summary</b>						
PR14 Average combined bill - 2017/18 year average CPIH deflated	- £	409.86	1	409.86	-	-
PR19 Average bill - real	- £	378.08	1	378.08	-	-
<b>Bill Movement Summary</b>						
Change in average combined bill	- £	(31.78)	1	(31.78)	-	-
Change in customer numbers and residential apportionment	- £	(26.17)	1	(26.17)	-	-
Change in retail CTS	- £	(0.38)	1	(0.38)	-	-
Change in RCV depreciation due to change in RCV (per customer)	- £	17.95	1	17.95	-	-
Change in Return on RCV due to change in RCV (per customer)	- £	16.54	1	16.54	-	-
Change in PAYG%	- £	(36.92)	1	(36.92)	-	-
Change in Totex	- £	43.72	1	43.72	-	-
Change in Run-off rate	- £	(8.29)	1	(8.29)	-	-

Change in RCV	- £	34.49	1	34.49	-	-
Change in WACC	- £	(13.50)	1	(13.50)	-	-
Change in Other wholesale items	- £	(3.54)	1	(3.54)	-	-
Change in Reconciliations items	- £	(3.82)	1	(3.82)	-	-

**INFO ONLY**

Date	03 Sep 2018	04 Apr 2018
Time	13:29:18	14:18:10
File	Bill-Waterfall-Model-updated-30-July ADJ TMS 8.xlsm	BillModel_v0.0.xlsm

**[do not delete row]** range end

Comment: Key input and logic changes  
 Comment: Key result changes  
 Nil inputs

**End of sheet**

# Check

-	Checks
93	Track chgs
	<b>Constant</b>
	<b>Unit</b>

## CHECK SUMMARY

### MODEL INTEGRITY CHECKS

Total model integrity checks -

**[do not delete row]**

<b>General</b>	Company Type switch check	-
<b>RCV</b>	Change in Water RCV depreciation check	-
	Change in Wastewater RCV depreciation check	-
	Change in Water RCV depreciation check	-
	Change in Wastewater return on RCV check	-
<b>Totex</b>	Change in Water PAYG Totex check	-
	Change in Wastewater PAYG Totex check	-
<b>Summary</b>	Sum of wholesale items after apportionment equals change in customer bill less retail items	-

**[do not delete row]**

Total track changes 93

**End of sheet**