

July 2019

Trust in water

PR19 draft determinations

Northumbrian Water – Allowed revenue appendix

PR19 draft determinations: Northumbrian Water – Allowed revenue appendix

This appendix provides supporting information on the calculation of allowed revenue as set out in section 4 of the draft determination. It sets out for each year and for each price control:

- The calculation of allowed revenue;
- Pay as you go (PAYG) rates and PAYG allowed income;
- Weighted average cost of capital and return on capital;
- Regulatory capital value (RCV) run-off rates and RCV run-off allowed income; and
- RCV.

All values are stated in 2017-18 prices unless otherwise stated.

1. Calculation of allowed revenue

The following tables set out the build up of allowed revenue for each wholesale price control for each year of the price review period as set out in tables 4.1 (wholesale price controls) and 4.2 (retail price controls) of the draft determination.

Table 1.1: Water Resources (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Pay as you go	52.5	52.3	52.1	51.9	51.7	260.5
RCV run-off	16.9	16.4	15.8	15.2	14.6	79.0
Return on capital	7.7	7.5	7.3	7.0	6.8	36.3
Revenue adjustments for PR14 reconciliations	0.0	0.0	0.0	0.0	0.0	0.0
Tax	1.5	1.7	1.8	1.8	1.8	8.6
Grants and contributions (price control)	0.0	0.0	0.0	0.0	0.0	0.0
Deduct other income (non-price control)	-1.4	-1.4	-1.4	-1.4	-1.4	-6.9
Revenue re-profiling	0.0	0.2	0.1	0.0	-0.2	0.0
Final allowed revenues	77.2	76.7	75.7	74.5	73.3	377.4

Table 1.2: Water network plus (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Pay as you go	143.4	141.8	140.5	139.2	138.2	703.2
RCV run-off	85.4	87.9	90.7	92.7	93.6	450.3
Return on capital	45.2	47.1	49.1	50.7	51.5	243.5
Revenue adjustments for PR14 reconciliations	5.7	0.0	0.0	0.0	0.0	5.7
Tax	5.6	4.6	4.8	4.9	5.1	25.1
Grants and contributions (price control)	16.1	15.9	15.7	15.3	15.5	78.4
Deduct other income (non-price control)	-7.0	-7.0	-7.0	-7.0	-7.0	-35.0
Revenue re-profiling	-0.1	0.7	0.5	-0.2	-1.0	-0.1
Final allowed revenues	294.1	291.1	294.3	295.6	295.9	1,471.1

Table 1.3: Wastewater network plus (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Pay as you go	67.6	66.8	66.1	65.4	64.8	330.7
RCV run-off	87.0	87.5	88.9	92.0	95.2	450.6
Return on capital	47.5	48.2	49.4	51.7	54.1	250.9
Revenue adjustments for PR14 reconciliations	-4.0	0.0	0.0	0.0	0.0	-4.0
Tax	4.3	5.3	5.3	4.2	3.9	23.0
Grants and contributions (price control)	0.8	0.8	0.8	0.8	0.8	4.2
Deduct other income (non-price control)	-1.7	-1.7	-1.7	-1.7	-1.7	-8.5
Revenue re-profiling	-0.1	0.5	0.4	-0.1	-0.8	-0.1
Final allowed revenues	201.5	207.5	209.2	212.3	216.4	1,046.9

Table 1.4: Bioresources (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Pay as you go	10.6	10.5	10.4	10.3	10.2	52.1
RCV run-off	11.3	11.0	10.6	10.4	10.1	53.4
Return on capital	3.7	3.8	4.0	4.2	4.4	20.1
Revenue adjustments for PR14 reconciliations	0.0	0.0	0.0	0.0	0.0	0.0
Tax	1.3	1.3	1.2	1.1	1.1	6.0
Grants and contributions (price control)	0.0	0.0	0.0	0.0	0.0	0.0
Deduct other income (non-price control)	0.0	0.0	0.0	0.0	0.0	0.0
Revenue re-profiling	0.0	0.1	0.0	0.0	-0.1	0.0
Final allowed revenues	26.9	26.6	26.3	26.0	25.7	131.6

Table 1.5: Residential retail control (nominal price base)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Total wholesale revenue - nominal (£m)	609.4	623.9	640.8	657.1	673.4	3,204.6
Proportion of wholesale revenue allocated to residential (%)	76.7%	77.1%	77.5%	77.8%	78.1%	
Residential retail costs (£m)	50.3	50.3	50.3	50.3	50.3	251.5
Total retail costs (£m)	518.0	531.2	546.7	561.6	576.4	2,733.9
Residential retail net margin (%)	1.0%	1.0%	1.0%	1.0%	1.0%	
Residential retail net margin (£m)	5.2	5.4	5.5	5.7	5.8	27.7
Residential retail adjustments (£m)	1.2	1.3	1.4	1.5	1.5	6.9
Residential retail revenue (£m)	56.8	57.0	57.2	57.4	57.7	286.1

2. Pay as you go (PAYG) rates

Companies recover expenditure in line with our totex allowances either in period from current customers using pay as you go (PAYG) or add it to the regulatory capital value (RCV) and recover from future customers using the RCV run-off rates.

The PAYG revenue for each year of the price control is based on the totex allowance for each year multiplied by the relevant PAYG rate plus an allowance for pension deficit recovery costs.

Table 4.3 of the draft determination sets out the five year PAYG allowances and the unweighted average PAYG rates for each of the wholesale controls. The following tables set out the totex, PAYG rates and resultant PAYG revenue allowance for each wholesale control for each year of the price review.

Table 2.1: Water resources

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Totex allowance (£ million)	59.1	58.9	57.2	55.6	55.4	286.2
PAYG (%)	88.3%	88.3%	90.5%	92.8%	92.8%	90.5%
Totex PAYG (£ million)	52.2	52.0	51.8	51.6	51.4	258.9
Pension deficit repair costs (£ million)	0.3	0.3	0.3	0.3	0.3	1.6
Total pay as you go (£ million)	52.5	52.3	52.1	51.9	51.7	260.5

Table 2.2: Water network plus

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Totex allowance (£ million)	258.2	276.4	270.2	250.1	226.6	1,281.5
PAYG (%)	53.7%	49.6%	50.2%	53.7%	58.9%	53.0%
Totex PAYG (£ million)	138.6	137.0	135.7	134.4	133.3	679.1
Pension deficit repair costs (£ million)	4.8	4.8	4.8	4.8	4.8	24.1
Total pay as you go (£ million)	143.4	141.8	140.5	139.2	138.2	703.2

Table 2.3: Wastewater network plus

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Totex allowance (£ million)	143.6	164.7	185.0	237.0	192.2	922.6
PAYG (%)	45.7%	39.4%	34.6%	26.7%	32.7%	34.8%
Totex PAYG (£ million)	65.7	64.8	64.1	63.4	62.8	320.8
Pension deficit repair costs (£ million)	2.0	2.0	2.0	2.0	2.0	9.9
Total pay as you go (£ million)	67.6	66.8	66.1	65.4	64.8	330.7

Table 2.4: Bioresources

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Totex allowance (£ million)	25.2	25.0	24.9	24.7	24.6	124.4
PAYG (%)	41.2%	40.9%	40.8%	40.6%	40.5%	40.8%
Totex PAYG (£ million)	10.4	10.2	10.1	10.0	9.9	50.7
Pension deficit repair costs (£ million)	0.3	0.3	0.3	0.3	0.3	1.3
Total pay as you go (£ million)	10.6	10.5	10.4	10.3	10.2	52.1

3. Regulatory capital value (RCV)

Tables 4.5 and 4.6 of the draft determination set out the opening RCV balance at 1 April 2020 and closing RCV balance at 31 March 2025. During that period the RCV balance is adjusted by adding totex not recovered in period through PAYG and subtracting the amortisation of RCV through RCV run-off.

The PR19 methodology confirmed we will transition to CPIH as the primary inflation rate from 2020. At 1 April 2020, we will index 50% of RCV to RPI; the rest, including new RCV, will be indexed to CPIH. Through the price control period, we will maintain separate balances for RCV inflated by RPI and RCV inflated by CPIH.

The PR19 methodology confirmed our protection of the value of the RCV as at 31 March 2020 across each of the wholesale price controls. Totex that is added to the RCV from 1 April 2020 is stated as ‘post 2020 investment’.

The following tables set out the movement on each component of RCV for each wholesale control for each year of the price control. We also set out below the average RCV balance for each component of the RCV as this is used for the calculation of the return on capital.

In tables 3.1 to 3.16 in this appendix, the opening RCV values have been inflated (by either RPI or CPIH) and then deflated to 2017-18 prices using CPIH. This is consistent with Tables 4.1 to 4.4 in this appendix, and allows the correct calculation of return on capital. However, it results in different opening RCV values for RPI inflated RCV to table 4.5 of the draft determination.

3.1 Water resources

Table 3.1: RPI inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	151.17	144.21	137.61	131.30	125.29
Less : RCV run-off	8.42	8.03	7.66	7.31	6.98
Closing RCV	142.75	136.18	129.94	123.99	118.32

Table 3.2: CPIH inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	150.40	142.02	134.11	126.64	119.59
Less : RCV run-off	8.38	7.91	7.47	7.05	6.66
Closing RCV	142.02	134.11	126.64	119.59	112.93

Table 3.3: Post 2020 investment RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	-	6.80	13.27	18.02	21.15
Add : Post 2020 investment RCV	6.95	6.91	5.43	3.98	3.97
Less : RCV run-off	0.15	0.44	0.68	0.85	0.98
Closing RCV	6.80	13.27	18.02	21.15	24.13

Table 3.4: Total RCV and average for each element of RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Total Opening RCV	301.57	293.03	284.98	275.96	266.03
Total Closing RCV	291.57	283.56	274.60	264.72	255.37
Average RPI inflated RCV	146.96	140.20	133.77	127.64	121.80
Average CPIH inflated RCV	146.21	138.07	130.38	123.11	116.26
Average post 2020 investment RCV	3.40	10.03	15.64	19.58	22.64

3.2 Water network plus

Table 3.5: RPI inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	863.75	830.79	799.27	768.95	739.83
Less: RCV run-off	41.37	39.79	38.28	36.83	35.44
Closing RCV	822.38	791.00	760.98	732.12	704.39

Table 3.6: CPIH inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
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Opening RCV	859.32	818.16	778.97	741.65	706.13
Less: RCV run-off	41.16	39.19	37.31	35.53	33.82
Closing RCV	818.16	778.97	741.65	706.13	672.31

Table 3.7: Post 2020 investment RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	-	116.76	247.16	366.62	462.03
Add : Post 2020 investment RCV	119.63	139.33	134.52	115.74	93.23
Less : RCV run-off	2.87	8.93	15.06	20.33	24.36
Closing RCV	116.76	247.16	366.62	462.03	530.90

Table 3.8: Total RCV and average for each element of RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Total Opening RCV	1,723.07	1,765.71	1,825.40	1,877.23	1,907.99
Total Closing RCV	1,757.30	1,817.12	1,869.26	1,900.28	1,907.59
Average RCV RPI	843.06	810.90	780.13	750.53	722.11
Average RCV CPIH	838.74	798.56	760.31	723.89	689.22
Average RCV post 2020 investment	58.38	181.96	306.89	414.33	496.47

3.3 Wastewater network plus

Table 3.9: RPI inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	922.01	888.32	856.05	824.96	795.05
Less: RCV run-off	42.69	41.13	39.63	38.20	36.81
Closing RCV	879.32	847.19	816.41	786.76	758.24

Table 3.10: CPIH inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	917.28	874.81	834.30	795.67	758.83
Less : RCV run-off	42.47	40.50	38.63	36.84	35.13
Closing RCV	874.81	834.30	795.67	758.83	723.70

Table 3.11: Post 2020 investment RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	-	76.15	170.15	280.42	437.06
Add: Post 2020 investment RCV	77.95	99.84	120.95	173.64	129.34
Less: RCV run-off	1.80	5.84	10.68	17.00	23.23
Closing RCV	76.15	170.15	280.42	437.06	543.17

Table 3.12: Total RCV and average for each element of RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Total Opening RCV	1,839.28	1,839.27	1,860.50	1,901.06	1,990.94
Total Closing RCV	1,830.27	1,851.64	1,892.51	1,982.66	2,025.11
Average RCV RPI	900.66	867.75	836.23	805.86	776.64
Average RCV CPIH	896.04	854.55	814.99	777.25	741.27
Average RCV post 2020 investment	38.07	123.15	225.29	358.74	490.12

3.4 Bioresources

Table 3.13 RPI inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	69.58	64.68	60.13	55.91	51.98
Less : RCV run-off	5.56	5.17	4.80	4.47	4.15
Closing RCV	64.02	59.51	55.33	51.44	47.83

Table 3.14: CPIH inflated RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	69.22	63.69	58.60	53.92	49.61
Less : RCV run-off	5.53	5.09	4.68	4.31	3.96
Closing RCV	63.69	58.60	53.92	49.61	45.65

Table 3.15: Post 2020 investment RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Opening RCV	-	14.59	28.67	42.25	55.35
Add: Post 2020 investment RCV	14.82	14.78	14.73	14.69	14.64
Less: RCV run-off	0.24	0.70	1.15	1.58	2.00
Closing RCV	14.59	28.67	42.25	55.35	67.99

Table 3.16: Total RCV and average for each element of RCV (£ million)

	2020-21	2021-22	2022-23	2023-24	2024-25
Total Opening RCV	138.81	142.96	147.40	152.08	156.95
Total Closing RCV	142.30	146.78	151.50	156.40	161.47
Average RCV RPI	66.80	62.09	57.73	53.67	49.90
Average RCV CPIH	66.46	61.15	56.26	51.77	47.63
Average RCV post 2020 investment	7.29	21.63	35.46	48.80	61.67

4. Return on capital

Companies are allowed a return on the RCV, equal to the weighted average cost of capital (WACC).

The return on capital is calculated by multiplying the annual average RCV for each component of RCV (RPI inflated, CPIH inflated and post 2020 investment) by the wholesale WACC for each control. Our draft determination is based on a cost of capital for the wholesale price controls of 3.08% – CPIH deflated (2.08% – RPI deflated). The CPIH deflated cost of capital is applied to the CPIH inflated RCV and the post 2020 investment RCV. The RPI deflated cost of capital is applied to the RPI inflated RCV.

Table 4.7 of the draft determination sets out the five year return on capital for each component of RCV for each wholesale control. The following tables set out the return on capital for each year of the price review and the WACC applied to each element of the RCV.

Table 4.1: Water resources return on capital and weighted average cost of capital

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
RPI inflated RCV (£ million)	3.1	2.9	2.8	2.7	2.5	13.9
CPIH inflated RCV (£ million)	4.5	4.3	4.0	3.8	3.6	20.1
Post 2020 investment (£ million)	0.1	0.3	0.5	0.6	0.7	2.2
Other adjustments (£ million)	-	-	-	-	-	-
Total return on capital (£ million)	7.7	7.5	7.3	7.0	6.8	36.3
Weighted average cost of capital applied to RPI inflated RCV (%)	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%
Weighted average cost of capital applied to CPIH inflated and post 2020 RCV (%)	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%

Table 4.2: Water network plus return on capital and weighted average cost of capital

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
RPI inflated RCV (£ million)	17.5	16.9	16.2	15.6	15.0	81.2
CPIH inflated RCV (£ million)	25.8	24.6	23.4	22.3	21.2	117.4
Post 2020 investment (£ million)	1.8	5.6	9.5	12.8	15.3	44.9
Other adjustments (£ million)	-	-	-	-	-	-
Total return on capital (£ million)	45.2	47.1	49.1	50.7	51.5	243.5
Weighted average cost of capital applied to RPI inflated RCV (%)	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%
Weighted average cost of capital applied to CPIH inflated and post 2020 RCV (%)	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%

Table 4.3: Wastewater network plus return on capital and weighted average cost of capital

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
RPI inflated RCV (£ million)	18.7	18.0	17.4	16.8	16.1	87.1
CPIH inflated RCV (£ million)	27.6	26.3	25.1	23.9	22.8	125.8
Post 2020 investment (£ million)	1.2	3.8	6.9	11.0	15.1	38.0
Other adjustments (£ million)	-	-	-	-	-	-
Total return on capital (£ million)	47.5	48.2	49.4	51.7	54.1	250.9
Weighted average cost of capital applied to RPI inflated RCV (%)	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%
Weighted average cost of capital applied to CPIH inflated and post 2020 RCV (%)	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%

Table 4.4: Bioresources return on capital and weighted average cost of capital

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
RPI inflated RCV (£ million)	1.4	1.3	1.2	1.1	1.0	6.0
CPIH inflated RCV (£ million)	2.0	1.9	1.7	1.6	1.5	8.7
Post 2020 investment (£ million)	0.2	0.7	1.1	1.5	1.9	5.4
Other adjustments (£ million)	-	-	-	-	-	-
Total return on capital (£ million)	3.7	3.8	4.0	4.2	4.4	20.1
Weighted average cost of capital applied to RPI inflated RCV (%)	2.08%	2.08%	2.08%	2.08%	2.08%	2.08%
Weighted average cost of capital applied to CPIH inflated and post 2020 RCV (%)	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%

5. RCV run-off rates

RCV run-off is the proportion of the RCV which is recovered each year during the price review period. Companies are able to propose different run-off rates for RPI inflated and CPIH inflated RCV and also, for the water resources and bioresources controls, for post 1 April 2020 investment.

Table 4.8 of the draft determination sets out five year total of the RCV run-off revenue for each component of RCV for each wholesale control. The following tables set out the RCV run-off rates for each wholesale control for each year of the price review period and the resultant total RCV run-off revenue for each year.

Table 5.1: Water resources

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Run-off on RPI inflated RCV (%)	5.57%	5.57%	5.57%	5.57%	5.57%	
Run-off on CPIH inflated RCV (%)	5.57%	5.57%	5.57%	5.57%	5.57%	
Run-off on post 2020 investment RCV (%)	4.25%	4.25%	4.25%	4.25%	4.25%	
Total RCV run-off (£ million)	16.95	16.38	15.81	15.22	14.62	78.98

Table 5.2: Water network plus

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Run-off on RPI inflated RCV (%)	4.79%	4.79%	4.79%	4.79%	4.79%	
Run-off on CPIH inflated RCV (%)	4.79%	4.79%	4.79%	4.79%	4.79%	
Run-off on post 2020 investment RCV (%)	4.79%	4.79%	4.79%	4.79%	4.79%	
Total RCV run-off (£ million)	85.40	87.91	90.66	92.69	93.63	450.29

Table 5.3: Wastewater network plus

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Run-off on RPI inflated RCV (%)	4.63%	4.63%	4.63%	4.63%	4.63%	
Run-off on CPIH inflated RCV (%)	4.63%	4.63%	4.63%	4.63%	4.63%	
Run-off on post 2020 investment RCV (%)	4.63%	4.63%	4.63%	4.63%	4.63%	
Total RCV run-off (£ million)	86.96	87.47	88.94	92.04	95.18	450.59

Table 5.4: Bioresources

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Run-off on RPI inflated RCV (%)	7.99%	7.99%	7.99%	7.99%	7.99%	
Run-off on CPIH inflated RCV (%)	7.99%	7.99%	7.99%	7.99%	7.99%	
Run-off on post 2020 investment RCV (%)	3.19%	3.19%	3.19%	3.19%	3.19%	
Total RCV run-off (£ million)	11.33	10.96	10.64	10.36	10.12	53.39

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