CW1 - Totex analysis - water resources and water network+ (post frontier shift and real price effects)		
Line description		**Commentary**
	Operating expenditure	
1	Base operating expenditure	There are no equity issuance costs within our AMP8 plan. For data table CW1 (also CWW1 and RET1) we have made an active decision to deviate from the additional guidance at paragraph 3.1 – for AMP7 periods only - which states: 3.1 This table mirrors CW1a but includes the impact of the frontier shift and real price effects assumptions included in table SUP11. The application of the blended RPE and frontier shift inflation adjustments across categories of totex and wholesale price controls is a practical way to build up our forecasts for AMP8, and AMP8 periods have a clear link to CW1a and SUP11. This is in line with the data table guidance. For AMP7 periods, however, this methodology does not support accurate reporting of our forecast performance for the remainder of AMP7, developed as part of our internal business planning and forecasting process. Attempting to force compliance with paragraph 3.1 of the table guidance results in mis-stated AMP7 forecasts. The additional guidance at paragraph 3.5 states: 3.5 This table contains inputs needed for populating the PR19 Cost reconciliation model and calculating the end of period revenue and RCV adjustments to be applied at PR24. The AMP7 periods of this table are populated so that application of the CPIH (FYA) in table PD1 generates our AMP7 forecasts in projected outturn prices, for entry into the PR19 cost reconciliation model. We believe that accurate reporting of AMP7 forecasts, to support population of the PR19 cost reconciliation model, justifies deviation from the table guidance at paragraph 3.1. For details of the principal use recharges between business units and other relevant information see table CW1a
2	Enhancement operating expenditure	
3	Developer services operating expenditure	
4	Total operating expenditure excluding third party services	
5	Third party services	
6	Total operating expenditure	
	Developer services revenue	
7	Grants and contributions - operating expenditure	
	Capital expenditure	
8	Base capital expenditure	
9	Enhancement capital expenditure	
10	Developer services capital expenditure	
11	Total gross capital expenditure excluding third party services	
12	Third party services	
13	Total gross capital expenditure	
	Developer services revenue	
14	Grants and contributions - capital expenditure	
15	Net totex	
	Cash expenditure	
16	Pension deficit recovery payments	
17	Other cash items	
18	Totex including cash items	
	Atypical expenditure	
19	High Park DWI prosecution	[redacted]

1

20	Item 2	The only Atypical item relates to the High Park DWI prosecution as detailed in our 2022-23 APR.
21	Item 3	
22	Item 4	
23	Item 5	
24	Total atypical expenditure	Calculation

CW1a - Totex analysis - water resources and water network+

<table>
<tr><th colspan="2">Line description</th><th>Commentary</th></tr>
<tr><td></td><td>Operating expenditure</td><td></td></tr>
<tr><td>1</td><td>Base operating expenditure</td><td>Principal use recharges are included within this row. Details are as below, in £m

<table>
<tr><th>Business unit</th><th>22-23</th><th>23-24</th><th>24-25</th><th>25-26</th><th>26-27</th><th>27-28</th><th>28-29</th><th>29-30</th></tr>
<tr><td>Water resources</td><td>2.017</td><td>1.573</td><td>1.573</td><td>1.819</td><td>1.554</td><td>0.639</td><td>0.155</td><td>0.143</td></tr>
<tr><td>Raw water treatment</td><td>0.037</td><td>0.030</td><td>0.030</td><td>0.028</td><td>0.019</td><td>0.013</td><td>0.011</td><td>0.010</td></tr>
<tr><td>Raw water storage</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td></tr>
<tr><td>Water treatment</td><td>8.547</td><td>6.918</td><td>6.918</td><td>6.877</td><td>4.936</td><td>2.893</td><td>2.052</td><td>1.892</td></tr>
<tr><td>Treated water distribution</td><td>6.731</td><td>5.214</td><td>5.214</td><td>5.236</td><td>3.758</td><td>2.016</td><td>1.312</td><td>1.209</td></tr>
<tr><td>Total water</td><td>17.332</td><td>13.735</td><td>13.735</td><td>13.960</td><td>10.267</td><td>5.562</td><td>3.531</td><td>3.254</td></tr>
</table>
PUA recharges are predominantly made for office leases, IT networks and security, as well as some commercial vehicles.</td></tr>
<tr><td>2</td><td>Enhancement operating expenditure</td><td>Any material changes year on year will be mentioned in the CW3 commentary</td></tr>
<tr><td>3</td><td>Developer services operating expenditure</td><td>No commentary – consistent over AMP 8</td></tr>
<tr><td>4</td><td>Total operating expenditure excluding third party services</td><td>Calculation</td></tr>
<tr><td>5</td><td>Third party services</td><td>No commentary – consistent over AMP 8</td></tr>
<tr><td>6</td><td>Total operating expenditure</td><td>Calculation</td></tr>
<tr><td></td><td>Developer services revenue</td><td></td></tr>
<tr><td>7</td><td>Grants and contributions - operating expenditure</td><td>Nil</td></tr>
<tr><td></td><td>Capital expenditure</td><td></td></tr>
<tr><td>8</td><td>Base capital expenditure</td><td>The AMP8 base capex programme is covered in detail in SRN19 Botex Technical Annex</td></tr>
<tr><td>9</td><td>Enhancement capital expenditure</td><td>Any material changes year on year will be mentioned in the CW3 commentary</td></tr>
<tr><td>10</td><td>Developer services capital expenditure</td><td>Any material changes year on year will be mentioned in the DS2e commentary</td></tr>
<tr><td>11</td><td>Total gross capital expenditure excluding third party services</td><td>Calculation</td></tr>
<tr><td>12</td><td>Third party services</td><td>Variations due to timing of specific schemes for which 3rd party contributions are anticipated</td></tr>
<tr><td>13</td><td>Total gross capital expenditure</td><td>Calculation</td></tr>
<tr><td></td><td>Developer services revenue</td><td></td></tr>
<tr><td>14</td><td>Grants and contributions - capital expenditure</td><td>Any cha[redacted]ed in the DS1e commentary</td></tr>
</table>

<table>
<tr><td>15</td><td>Net totex</td><td>Calculation</td></tr>
<tr><td></td><td>Cash expenditure</td><td></td></tr>
<tr><td>16</td><td>Pension deficit recovery payments</td><td>Pension deficit recovery payments have been excluded from CW1a as payments after 2025 are not recovered from customers per IN 13/17. Details are as below, in £m of the deficit payments we forecast to make across AMP8

<table>
<tr><th>Business unit</th><th>22-23</th><th>23-24</th><th>24-25</th><th>25-26</th><th>26-27</th><th>27-28</th><th>28-29</th><th>29-30</th></tr>
<tr><td>Water resources</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.230</td><td>0.230</td><td>0.230</td><td>0.230</td><td>0.165</td></tr>
<tr><td>Raw water treatment</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td></tr>
<tr><td>Raw water storage</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.028</td><td>0.028</td><td>0.028</td><td>0.028</td><td>0.020</td></tr>
<tr><td>Water treatment</td><td>0.000</td><td>0.000</td><td>0.000</td><td>2.892</td><td>2.892</td><td>2.892</td><td>2.892</td><td>2.084</td></tr>
<tr><td>Treated water distribution</td><td>0.000</td><td>0.000</td><td>0.000</td><td>3.130</td><td>3.130</td><td>3.130</td><td>3.130</td><td>2.256</td></tr>
<tr><td>Total water</td><td>0.000</td><td>0.000</td><td>0.000</td><td>6.280</td><td>6.280</td><td>6.280</td><td>6.280</td><td>4.526</td></tr>
</table></td></tr>
<tr><td>17</td><td>Other cash items</td><td>Nil</td></tr>
<tr><td>18</td><td>Totex including cash items</td><td>There are no equity issuance costs within our AMP8 plan.</td></tr>
<tr><td></td><td>Atypical expenditure</td><td></td></tr>
<tr><td>19</td><td>High Park DWI prosecution</td><td rowspan="5">The only atypical item relates to the High Park DWI prosection as detailed in our 22-23 APR.</td></tr>
<tr><td>20</td><td>Item 2</td></tr>
<tr><td>21</td><td>Item 3</td></tr>
<tr><td>22</td><td>Item 4</td></tr>
<tr><td>23</td><td>Item 5</td></tr>
<tr><td>24</td><td>Total atypical expenditure</td><td>Calculation</td></tr>
</table>

<table>
<tr><th colspan="3">CW2 - Base expenditure analysis - water resources and water network+</th></tr>
<tr><th colspan="2">Line description</th><th>Commentary</th></tr>
<tr><td></td><td>Operating expenditure</td><td></td></tr>
<tr><td>1</td><td>Power</td><td rowspan="5">All AMP8 base opex costs run off our 24-25 forecast, which is used as a baseline.</td></tr>
<tr><td>2</td><td>Income treated as negative expenditure</td></tr>
<tr><td>3</td><td>Bulk Supply/Bulk discharge</td></tr>
<tr><td>4</td><td>Renewals expensed in year (infrastructure)</td></tr>
<tr><td>5</td><td>Renewals expensed in year (non-infrastructure)</td></tr>
<tr><td>6</td><td>Other operating expenditure</td><td>All AMP8 base opex costs run off our 24-25 forecast, which is used as a baseline.

To this we have added £10m (£2m per year) to cover increased catchment management costs.

Principal use recharges are included within this row. Details are as below, in £m

<table>
<tr><th>Business unit</th><th>22-23</th><th>23-24</th><th>24-25</th><th>25-26</th><th>26-27</th><th>27-28</th><th>28-29</th><th>29-30</th></tr>
<tr><td>Water resources</td><td>2.017</td><td>1.573</td><td>1.573</td><td>1.819</td><td>1.554</td><td>0.639</td><td>0.155</td><td>0.143</td></tr>
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<tr><td>Raw water storage</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>0.000</td></tr>
<tr><td>Water treatment</td><td>8.547</td><td>6.918</td><td>6.918</td><td>6.877</td><td>4.936</td><td>2.893</td><td>2.052</td><td>1.892</td></tr>
<tr><td>Treated water distribution</td><td>6.731</td><td>5.214</td><td>5.214</td><td>5.236</td><td>3.758</td><td>2.016</td><td>1.312</td><td>1.209</td></tr>
<tr><td>Total water</td><td>17.332</td><td>13.735</td><td>13.735</td><td>13.960</td><td>10.267</td><td>5.562</td><td>3.531</td><td>3.254</td></tr>
</table>
PUA recharges are predominantly made for office leases, IT networks and security, as well as some commercial vehicles.

There are no equity issuance costs within our AMP8 plan.</td></tr>
<tr><td>7</td><td>Local authority and Cumulo rates</td><td>Movements in rates are described in our CW10 commentary.</td></tr>
<tr><td></td><td>Service Charges</td><td></td></tr>
<tr><td>8</td><td>Canal & River Trust abstraction charges/ discharge consents</td><td>Not applicable</td></tr>
<tr><td>9</td><td>Environment Agency / NRW abstraction charges/ discharge consents</td><td>All AMP8 base opex costs run off our 24-25 forecast, which is used as a baseline.</td></tr>
<tr><td>10</td><td>Other abstraction charges/ discharge consents</td><td>Not applicable</td></tr>
<tr><td></td><td>Location specific costs & obligations</td><td></td></tr>
<tr><td>11</td><td>Costs associated with Traffic Management Act</td><td>All AMP8 base opex costs run off our 24-25 forecast, which is used as a baseline.</td></tr>
</table>

12	Costs associated with lane rental schemes	
13	Statutory water softening	Not applicable
14	Total base operating expenditure	Calculation
	Capital expenditure	
15	Maintaining the long term capability of the assets - infra	The AMP8 base capex programme is covered in detail in SRN19 Botex Technical Annex
16	Maintaining the long term capability of the assets - non-infra	
17	Total base capital expenditure	
	Traffic Management Act	
18	Projects incurring costs associated with Traffic Management Act	This number is based on our 22-23 actual run rate.

CW3 - Enhancement expenditure - water resources and water network+		
Line description		**Commentary**
	EA/NRW environmental programme (WINEP/NEP)	
1	Biodiversity and conservation; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
2	Biodiversity and conservation; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
3	Biodiversity and conservation; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
4	Eels/fish entrainment screens; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **None planned in AMP8 – investigation only to determine requirement for AMP9 implementation**
5	Eels/fish entrainment screens; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
6	Eels/fish entrainment screens; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
7	Eels/fish passes; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **None planned in AMP8 – investigation only to determine requirement for AMP9 implementation**
8	Eels/fish passes; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
9	Eels/fish passes; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
10	Invasive Non Native Species; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
11	Invasive Non Native Species; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
12	Invasive Non Native Species; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
13	Drinking Water Protected Areas; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
14	Drinking Water Protected Areas; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent a[redacted]3) and internal company plans. Data ta[redacted]sheet and costings associated with AMP8

15	Drinking Water Protected Areas; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
16	Water Framework Directive; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
17	Water Framework Directive; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
18	Water Framework Directive; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
19	Wetland creation; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
20	Wetland creation; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Nothing specific under this driver, Wetlands may form part of the preferred solution to be delivered under the Biodiversity and Conservation drivers in AMP8 (following completion of AMP7 investigations in 2025)**
21	Wetland creation; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
22	Trade effluent discharge flow monitoring; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
23	Trade effluent discharge flow monitoring; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
24	Trade effluent discharge flow monitoring; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
25	25 year environment plan; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
26	25 year environment plan; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **None planned in AMP8 – investigation only to determine requirement for AMP9**
27	25 year environment plan; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
28	Investigations; (WINEP/NEP) - desk based study only water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
29	Investigations; (WINEP/NEP) - desk based study only water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **No desk based investigations planned for AMP8**
30	Investigations; (WINEP/NEP) - desk based study only water totex	Values [redacted] AMP7 actual and forecast values aligned to our most recent a[redacted]nd internal company plans.

31	Investigations; (WINEP/NEP) - survey, monitoring or simple modelling water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
32	Investigations; (WINEP/NEP) - survey, monitoring or simple modelling water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
33	Investigations; (WINEP/NEP) - survey, monitoring or simple modelling water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
34	Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
35	Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
36	Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
37	Investigations total; (WINEP/NEP) water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
38	Investigations total; (WINEP/NEP) water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
39	Investigations total; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. **Data taken from EAs AMP8 WINEP spreadsheet and costings associated with AMP8**
40	Total environmental programme expenditure; (WINEP/NEP) water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. represented in table CW3
	Supply-demand balance	
41	Supply-side improvements delivering benefits in 2025-2030; SDB capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN26 Water Resources - Supply Enhancement Business Case for details of AMP8 spend
42	Supply-side improvements delivering benefits in 2025-2030; SDB opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN26 Water Resources - Supply Enhancement Business Case for details of AMP8 spend
43	Supply-side improvements delivering benefits in 2025-2030; SDB totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN26 Water Resources - Supply Enhancement Business Case for details of AMP8 spend

44	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); SDB capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN27 Water Resources – Demand Enhancement Business Case for details of AMP8 spend
45	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); SDB opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN27 Water Resources – Demand Enhancement Business Case for details of AMP8 spend
46	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); SDB totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN27 Water Resources – Demand Enhancement Business Case for details of AMP8 spend
47	Leakage improvements delivering benefits in 2025-2030; SDB capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN27 Water Resources – Demand Enhancement Business Case for details of AMP8 spend
48	Leakage improvements delivering benefits in 2025-2030; SDB opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN27 Water Resources – Demand Enhancement Business Case for details of AMP8 spend
49	Leakage improvements delivering benefits in 2025-2030; SDB totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN27 Water Resources – Demand Enhancement Business Case for details of AMP8 spend
50	Internal interconnectors delivering benefits in 2025-2030; SDB capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. See SRN26 Water Resources - Supply Enhancement Business Case for details of AMP8 spend.
51	Internal interconnectors delivering benefits in 2025-2030; SDB opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. SRN26 Water Resources - Supply Enhancement Business Case for details of AMP8 spend.
52	Internal interconnectors delivering benefits in 2025-2030; SDB totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. SRN26 Water Resources - Supply Enhancement Business Case for details of AMP8 spend.
53	Supply demand balance improvements delivering benefits starting from 2031; SDB capex	Figure is sum of capex for supply side schemes, internal interconnectors and SROs. Please see SRN26- Water Resources - Supply and SRN29- Strategic Resource Options enhancement business cases
54	Supply demand balance improvements delivering benefits starting from 2031; SDB opex	Figure is sum of capex for supply side schemes, internal interconnectors and SROs. Please see SRN26- Water Resources - Supply and SRN29- Strategic Resource Options enhancement business cases

55	Supply demand balance improvements delivering benefits starting from 2031; SDB totex	Figure is sum of capex for supply side schemes, internal interconnectors and SROs. Please see SRN26- Water Resources - Supply and SRN29- Strategic Resource Options enhancement business cases
56	Strategic regional resource solutions; SDB capex	Zero expenditure against this line because the Hampshire Water Transfer is proposed for Alternative Delivery – see table SUP12 For further details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN29 Water Resources – Strategic Resource Options' T2ST and SESRO – These do not appear in this line because the benefits fall outside of AMP8. The development costs for these two SROs can be found elsewhere in CW3.
57	Strategic regional resource solutions; SDB opex	Zero expenditure against this line because the Hampshire Water Transfer is proposed for Alternative Delivery – see table SUP12 For further details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN29 Water Resources – Strategic Resource Options' T2ST and SESRO – These do not appear in this line because the benefits fall outside of AMP8. The development costs for these two SROs can be found elsewhere in CW3.
58	Strategic regional resource solutions; SDB totex	Zero expenditure against this line because the Hampshire Water Transfer is proposed for Alternative Delivery – see table SUP12 For further details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN29 Water Resources – Strategic Resource Options' T2ST and SESRO – These do not appear in this line because the benefits fall outside of AMP8. The development costs for these two SROs can be found elsewhere in CW3.
59	Total supply demand expenditure; SDB totex	Zero expenditure against this line because the Hampshire Water Transfer is proposed for Alternative Delivery – see table SUP12 For further details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN29 Water Resources – Strategic Resource Options' T2ST and SESRO – These do not appear in this line because the benefits fall outside of AMP8. The development costs for these two SROs can be found elsewhere in CW3.
	Metering	
60	New meters requested by existing customers (optants); metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12. For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'.
61	New meters requested by existing customers (optants); metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
62	New meters requested by existing customers (optants); metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SU[redacted]

		For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
63	New meters introduced by companies for existing customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
64	New meters introduced by companies for existing customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
65	New meters introduced by companies for existing customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
66	New meters for existing customers - business; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
67	New meters for existing customers - business; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
68	New meters for existing customers - business; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
69	Replacement of existing basic meters with AMR meters for residential customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
70	Replacement of existing basic meters with AMR meters for residential customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
71	Replacement of existing basic meters with AMR meters for residential customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
72	Replacement of existing basic meters with AMI meters for residential customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery [redacted] Business Case 'SRN24 Meter Replacement'

73	Replacement of existing basic meters with AMI meters for residential customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
74	Replacement of existing basic meters with AMI meters for residential customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
73	Replacement of existing AMR meters with AMI meters for residential customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
76	Replacement of existing AMR meters with AMI meters for residential customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
77	Replacement of existing AMR meters with AMI meters for residential customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
78	Replacement of existing basic meters with AMR meters for business customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
79	Replacement of existing basic meters with AMR meters for business customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
80	Replacement of existing basic meters with AMR meters for business customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
81	Replacement of existing basic meters with AMI meters for business customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
82	Replacement of existing basic meters with AMI meters for business customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
83	Replacement of existing basic meters with AMI meters for business customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SU[redacted]

		For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
84	Replacement of existing AMR meters with AMI meters for business customers; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
85	Replacement of existing AMR meters with AMI meters for business customers; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
86	Replacement of existing AMR meters with AMI meters for business customers; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
87	Smart meter infrastructure; metering capex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
88	Smart meter infrastructure; metering opex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
89	Smart meter infrastructure; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
90	Total metering expenditure; metering totex	Zero expenditure against this line because schemes are proposed as alternative delivery – see table SUP12 For details see Technical Annex 'SRN17 Direct Procurement for Customers & Alternative Delivery Model' and Enhancement Business Case 'SRN24 Meter Replacement'
	Water quality improvements	
91	Improvements to taste, odour and colour (grey solutions); enhancement capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0. No known taste, odour and colour issues requiring enhancement spend in AMP8
92	Improvements to taste, odour and colour (grey solutions); enhancement opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0. No known taste, odour and colour issues requiring enhancement spend in AMP8
93	Improvements to taste, odour and colour (grey solutions); enhancement totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0. No known taste, odour and colour issues requiring enhancement spend in AMP8
94	Improvements to taste, odour and colour (green solutions); enhancement capex	Values f[redacted]7 actual and forecast values aligned to our most recent a[redacted]nd internal company plans.

		£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
95	Improvements to taste, odour and colour (green solutions); enhancement opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0. No known taste, odour and colour issues requiring enhancement spend in AMP8
96	Improvements to taste, odour and colour (green solutions); enhancement totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0. No known taste, odour and colour issues requiring enhancement spend in AMP8
97	Addressing raw water quality deterioration (grey solutions); enhancement capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. For AMP8 £48.3m AMP8 Capex enhancements to reduce Nitrate concentrations. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.
98	Addressing raw water quality deterioration (grey solutions); enhancement opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. For AMP8 £1.0m AMP8 Opex enhancements to reduce Nitrate concentrations. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
99	Addressing raw water quality deterioration (grey solutions); enhancement totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. For AMP8 £49.3m AMP8 Totex enhancements to reduce Nitrate concentrations. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
100	Addressing raw water quality deterioration (green solutions); enhancement capex	Green solutions such as catchment management are funded through WINEP
101	Addressing raw water quality deterioration (green solutions); enhancement opex	Green solutions such as catchment management are funded through WINEP
102	Addressing raw water quality deterioration (green solutions); enhancement totex	Green solutions such as catchment management are funded through WINEP
103	Conditioning water to reduce plumbosolvency; enhancement capex	No enhancement spend to reduce plumbosolvency
104	Conditioning water to reduce plumbosolvency; enhancement opex	No enhancement spend to reduce plumbosolvency
105	Conditioning water to reduce plumbosolvency; enhancement totex	No enhancement spend to reduce plumbosolvency
106	Lead communication pipes replaced or relined; enhancement capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0.56m AMP8 Comm pipe Capex, based on replacement of 800 pipes. 200 through public building programme and 600 through WRMP programme. See SRN31 Lead Enhancement Business Case, for further details. Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans.

107	Lead communication pipes replaced or relined; enhancement opex	No opex costs for replacing comm pipes
108	Lead communication pipes replaced or relined; enhancement totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. As per comm pipe capex (£0.56m AMP8 Comm pipe Capex, based on replacement of 800 pipes. 200 through public building programme and 600 through WRMP programme. See SRN31 Lead Enhancement Business Case, for further details).
109	External lead supply pipes replaced or relined; enhancement capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £1.280m AMP8 external supply pipe Capex based on replacement of 650 pipes. 200 through public building programme and 450 through WRMP programme. Outside of public buildings programme, assume 75% of customers allow pipe replacement, when comm pipe is replaced. See SRN31 Lead Enhancement Business Case, for further details.
110	External lead supply pipes replaced or relined; enhancement opex	No opex costs for replacing external supply pipes.
111	External lead supply pipes replaced or relined; enhancement totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. For AMP8, as per external supply pipe capex (£1.280m AMP8 external supply pipe Capex based on replacement of 650 pipes. 200 through public building programme and 450 through WRMP programme. Outside of public buildings programme, assume 75% of customers allow pipe replacement, when comm pipe is replaced. See SRN31 Lead Enhancement Business Case, for further details).
112	Internal lead supply pipes replaced or relined; enhancement capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £0.495m AMP8 internal supply pipe Capex based on replacement of 350 pipes. 200 through public building programme and 150 through WRMP programme. Outside of public buildings programme, assume 25% of customers allow pipe replacement, when comm pipe is replaced. See SRN31 Lead Enhancement Business Case, for further details).
113	Internal lead supply pipes replaced or relined; enhancement opex	No opex costs for replacing internal supply pipes
114	Internal lead supply pipes replaced or relined; enhancement totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. As per internal supply pipe capex (£0.495m AMP8 internal supply pipe Capex based on replacement of 350 pipes. 200 through public building programme and 150 through WRMP programme. Outside of public buildings programme, assume 25% of customers allow pipe replacement, when comm pipe is replaced. See SRN31 Lead Enhancement Business Case, for further details).
115	Other lead reduction related activity; enhancement capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. No other [redacted] MP8.

116	Other lead reduction related activity; enhancement opex	No other lead enhancement activity in AMP8.
117	Other lead reduction related activity; enhancement totex	No other lead enhancement activity in AMP8.
	Water resilience and security	
118	Resilience; enhancement water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £356.229m AMP8 Capex for resilience enhancement in three areas: • £304.169m (£318.6m with contributions from South East Water) Supply Resilience Enhancement Programme to upgrade our 4 largest sites. . See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • £45.708m (£47.2m with contributions) Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • £6.351m Operational resilience enhancements to improve heat and power resilience. See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details.
119	Resilience; enhancement water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. Opex AMP8 for resilience enhancement in three areas: • £0m Supply Resilience Enhancement Programme to upgrade our 4 largest sites. See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • £1.5m Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • £0m Operational resilience enhancements to improve heat and power resilience. See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details.
120	Resilience; enhancement water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. AMP8 Totex for resilience enhancement in three areas: • £304.2m (318.6m with contributions from South East Water) Supply Resilience Enhancement Programme to upgrade our 4 largest sites. See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • £45.7m (£47.2m with contributions) Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • £6.4m Operational resilience enhancements to improve heat and power resilience See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details.
121	Security - SEMD; enhancement water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £11.3m AMP8 Capex for SEMD enhancements: [redacted]

		[redacted] See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details.
122	Security - SEMD; enhancement water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. AMP8 £0 AMP8 Opex for SEMD enhancements: [redacted] See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details.
123	Security - SEMD; enhancement water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £11.3m AMP8 Totex for SEMD enhancements: [redacted] See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details.
124	Security - Cyber; enhancement water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £22.569m AMP8 Cyber security enhancements to meet industry standard profile. See SRN34 Network & Information Systems Enhancement Business Case, for further details.
125	Security - Cyber; enhancement water opex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. For AMP8 £0m Cyber security enhancements to meet industry standard profile
126	Security - Cyber; enhancement water totex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £22.569m AMP8 Cyber security enhancements to meet industry standard profile. See SRN34 Network & Information Systems Enhancement Business Case, for further details.
	Net zero	
127	Greenhouse gas reduction (net zero); enhancement water capex	**No expenditure against this line**
128	Greenhouse gas reduction (net zero); enhancement water opex	**No expenditure against this line**
129	Greenhouse gas reduction (net zero); enhancement water totex	**Calculated cells**
	Other enhancement (Freeform lines - by exception)	
130	AMP7 Other enhancement - water capex	
131	Alternative delivery AMP 8 - water opex	**For deta[redacted]s Case SRN24 – Meter replacement and Technical annex S[redacted]omers and Alternative deliver Model**

132	Reservoir safety, Emerging contaminants, Climate Change Adaptation; enhancement water capex	Values for 2022-2025 are based on AMP7 actual and forecast values aligned to our most recent annual reporting dataset (July 2023) and internal company plans. £25.072m AMP8 capex. This is spend for the following areas: • £21.185m reservoir safety (contributions wrongly applied, the correct value is £24.862m); • £2.626m Emerging contaminants study; • £1.261m climate change adaptation study. See SRN32 Reservoir Safety Enhancement Business Case, and SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
133	Havant Thicket - payments to Portsmouth Water - opex	Values for 25-30 are representative of payments that we are due to make to Portsmouth Water under the bulk supply agreement for their construction of Havant Thicket reservoir. These are included in SRN26- Water Resources – Supply Enhancement Business Case, as part of the Additional import from Portsmouth Water scheme.
134	Mains replacement Capex	Estimated based on industry benchmark. See SRN27: Water Resources – demand business case for details.
135	Mains replacement Opex	Zero costs
136	WRMP mitigation capex	Value for 25-30 is based on forecast spend related to developing a mitigation plan for delays associated with our SRO in Hampshire and the Recycling; Littlehampton WwTW (Ford) scheme in Sussex. This mitigation plan is still in development and has not yet been finalised with our regulators. Please see SRN26- Water Resources - Supply enhancement business case for further details.
137	WRMP mitigation opex	Zero costs
138	Top down efficiency capex	We have challenged the efficiency of our enhancement costs beyond our benchmarks and applied a further efficiency challenge to our enhancement plan of 1% per year. See SRN04: Costs and Outcomes Approach chapter, section for details
139	Top down efficiency opex	Zero costs
144	Total other enhancement water expenditure	Calculated cells
	Total enhancement	
145	Total enhancement expenditure; water capex	Calculated line from above investment
146	Total enhancement expenditure; water opex	
147	Total enhancement expenditure; water totex	

CW4 - Raw water transport, raw water storage and water treatment data		
Line description		**Commentary**
	Raw water transport and storage	
1	Total number of balancing reservoirs	Assumption that we are not building any more balancing reservoirs this AMP or next therefore no change in baseline figure Data confidence grade: A2
2	Total volumetric capacity of balancing reservoirs	
3	Total number of raw water transport stations	Assumption that we are not building any new raw water transport stations therefore no change in baseline figure Data confidence grade: B2
4	Total installed power capacity of raw water transport pumping stations	
5	Total length of raw water transport mains and other conveyors	Assumption that we are not building any new transport mains or other conveyors therefore no change in baseline figure Data confidence grade: C5
6	Average pumping head ~ raw water transport	APR23 performance flatlined for AMP7/8 forecast because RC23 year end audit identified potential issues with the method of calculation meaning forecast changes to APH caused by AMP7 & 8 schemes could lead to further inaccuracies. These are being looked into but we are not yet able to provide accurate information on the changes to APH they may cause. Confidence grade C3
7	Energy consumption – raw water transport (MWh)	Base years 2021/22 and 2022/23 were used to produce forecasts; this resulted in small variations between 2022/23 actuals and 2023/24 forecasts. The expected delivery of significant PR24 schemes (DWI and WRMP resilience schemes) lead to significant increases in this data line from 2027. Confidence grade: D4.
8	Total number of raw water transport imports	No new schemes will affect this number Data confidence grade: A2
9	Water imported from 3rd parties to raw water transport systems	
10	Total number of raw water transport exports	
11	Water exported to 3rd parties from raw water transport systems	
12	Total length of raw and pre-treated (non-potable) water transport mains for supplying customers	Assumption that we are not creating any new non-potable supplies to customers therefore no change in baseline figure Data confidence grade: B3
	Water treatment - treatment type analysis	
13/14	All simple disinfection works – number and volume treated	2026/27 East Woodhay increase by 1.2Ml/d therefore +1.2; Barton Stacey DFRP moving site 1.82Ml/d from simple disinfection works to W4 works therefore -1.82. Values of 0 indicate where we have no site with that particular treatment category. Data confidence grade: A2

15/16	W1 works number and volume treated	2023/24 Smock Alley increase number of W1 works by 3.12Ml/d; 2024/25 Rogate and Rotherfield increase number of W1 works by 1.6Ml/d. Values of 0 indicate where we have no site with that particular treatment category. Data confidence grade: A2
17/18	W2 works number and volume treated	2027/28 Twyford DFRP moves Twyford from W2 to W4 therefore -20.15Ml/d, 2028/29 Wingham DFRP moves Wingham from W2 to W4 therefore -20.6Ml/d, 2028/29 Patching moves from W2 to W4 due to nitrate improvements therefore -4.57Ml/d, 2028/29 Mossy Bottom moves from W2 to W4 due to nitrate improvements therefore -3.38Ml/d, 2029/30 Calbourne DFRP moves Calbourne from W2 to W4 therefore -1.5Ml/d. Values of 0 indicate where we have no site with that particular treatment category. Data confidence grade: A2
19/20	W3 works number and volume treated	2028/29 Luton DFRP moves Luton from W3 to W4 therefore -11.5Ml/d. Values of 0 indicate where we have no site with that particular treatment category. Data confidence grade: A2
21/22	W4 works number and volume treated	2027/28 Twyford DFRP moves Twyford from W2 to W4 therefore +20.15Ml/d, Barton Stacey DFRP moving site +1.82Ml/d from simple disinfection works to W4 works, 2028/29 Wingham DFRP moves Wingham from W2 to W4 therefore +20.6Ml/d, 2028/29 Luton DFRP moves Luton from W3 to W4 therefore +11.5Ml/d, 2028/29 Patching moves from W2 to W4 due to nitrate improvements therefore +4.57Ml/d, 2028/29 Mossy Bottom moves from W2 to W4 due to nitrate improvements therefore +3.38Ml/d, 2029/30 Calbourne DFRP moves Calbourne from W2 to W4 therefore +1.5Ml/d, Keycol nitrates bring site back online into W4 category thereggore +1.8Ml/d Data confidence grade: A2
23/24	W5 works number and volume treated	2027/28 Recycling moving Sandown from W5 to W6 so -12Ml/d. Values of 0 indicate where we have no site with that particular treatment category. Data confidence grade: A2
25/26	W6 works number and volume treated	2027/28 2027/28 Recycling moving Sandown from W5 to W6 and increasing water treatment therefore +20.5Ml/d. Values of 0 indicate where we have no site with that particular treatment category. Data confidence grade: A2
	Water treatment - works size	
27/28	WTWs in size band 1 number and DI	2025/26 Rogate scheme completion therefore +1.6Ml/d, percentage of total DI calculated across all size bands Data confidence grade: A2
29/30	WTWs in size band 2 number and DI	2024/25 Smock Alley scheme completion therefore +3.12Ml/d, 2027/28 planned improvements at East Woodhay move East Woodhay from size band 2 to size band 3 therefore -3.6Ml/d, percentage of total DI calculated across all size bands Data confidence grade: A2
31/32	WTWs in size band 3 number and DI	2027/28 planned improvements at East Woodhay move East Woodhay from size band 2 to size band 3 therefore +4.8Ml/d, percentage of total DI calculated across all size bands Data confidence grade: A2

33/34	WTWs in size band 4 number and DI	2027/28 Recycling at Sandown completion and increasing size to size band 5 therefore - 12Ml/d, percentage of total DI calculated across all size bands Data confidence grade: A2
35/36	WTWs in size band 5 number and DI	2027/28 Recycling at Sandown completion and increasing size to size band 5 therefore +20.5Ml/d , percentage of total DI calculated across all size bands Data confidence grade: A2
37/38	WTWs in size band 6 number and DI	No change to size category 6, percentage of total DI calculated across all size bands Data confidence grade: A2
39/40	WTWs in size band 7 number and DI	Percentage of total DI calculated across all size bands Data confidence grade: A2
41/42	WTWs in size band 8 number and DI	No sites in size band 8, percentage of total DI calculated across all size bands Data confidence grade: A2
	Water treatment - other information	
43	Peak week production capacity	2024/25 Smock Alley completion therefore +3.12Ml/d, 2025/26 Rogate completion therefore +1.6Ml/d, 2027/28 East Woodhay improvement completion therefore +1.2Ml/d, 2027/28 Sandown recycling completion therefore +8.5Ml/d Data confidence grade: A2
44	Peak week production capacity having enhancement expenditure for grey solution improvements to address raw water quality deterioration	2027/28 Bowcombe nitrates +3Ml/d, 2027/28 Hazells nitrates +7.62Ml/d, 2027/28 Fawkham nitrates +5.2Ml/d, 2028/29 Madehurst nitrates +4.16Ml/d, 2028/29 Stanhope Lodge nitrates +6.2Ml/d, 2028/29 Patching nitrates +4.57Ml/d, 2028/29 Mossy bottom nitrates +3.38Ml/d, 2028/29 Patcham nitrates +17.5Ml/d, 2029/30 Keycol nitrates +1.8Ml/d 2029/30 Martin Mill nitrates +1.8Ml/d, 2029/30 Martin Gorse nitrates +4.7Ml/d, 2029/30 Ringwould nitrates +4.36Ml/d Data confidence grade: A2
45	Peak week production capacity having enhancement expenditure for green solutions improvements to address raw water quality deterioration	Assume catchment management benefit will be seen after 2030 so no change Data confidence grade: A2
46	Total water treated at more than one type of works	2023/24 Sutton disinfection volume pumping to Marting Gorse for nitrate removal and back +6Ml/d, 2027/28 Sandown recycling completion +8.5Ml/d Data confidence grade: A2
47	Number of treatment works requiring remedial action because of raw water deterioration	2022/23 Goldstone +1, 2027/28 Bowcombe nitrates +1, 2027/28 Hazells nitrates +1, 2027/28 Fawkham nitrates +1, 2028/29 Madehurst nitrates +1, 2028/29 Stanhope Lodge nitrates +1, 2028/29 Patching nitrates +1, 2028/29 Mossy bottom nitrates +1, 2028/29 Patcham nitrates +1, 2029/30 Keycol nitrates +1 2029/30 Martin Mill nitrates +1, 2029/30 Martin Gorse nitrates +1, 2029/30 Ringwould nitrates +1 Data confidence grade: A2
48	Zonal population receiving water treated with orthophosphate	Increases in this figure are driven by the dWRMP population forecast and thus takes account of increased population, housing and econometric trends Data confidence grade: A2
49	Average pumping head – water treatment	APR23 performance flatlined for AMP7/8 forecast because RC23 year end audit identified poten[redacted]ation meaning forecast changes to APH caused by

		AMP7 & 8 schemes could lead to further inaccuracies. These are being looked into but we are not yet able to provide accurate information on the changes to APH they may cause. Confidence grade C3
50	Energy consumption - water treatment (MWh)	Base years 2021/22 and 2022/23 were used to produce forecasts; this resulted in small variations between 2022/23 actuals and 2023/24 forecasts. Confidence grade: D4.
51	Total number of water treatment imports	Data confidence grade: A2
52	Water imported from 3rd parties to water treatment works	
53	Total number of water treatment exports	
54	Water exported to 3rd parties from water treatment works	
55	Total number of water treatment works effluent discharges requiring new MCERTS flow monitoring	2026/27 Rogate 31/12/2026 Data confidence grade: B2

CW4a- Transition and accelerated programme - Raw water transport, raw water storage and water treatment data		
Line description		**Commentary**
	CW4a all lines	
1 - 55	CW4a all lines	No transitional or accelerated programme of works relating to the lines in table CW4a therefore left blank Data confidence grade: A1

CW5 - Treated water distribution - assets and operations		
Line description		**Commentary**
	Assets and operations	
1	Total installed power capacity of potable water pumping stations	Calculated based on ratio of baseline figures of CW5.1 and CW5.16 applied to future forecast in CW5.16. Changes therefore increase in line with CW5.16 Confidence grade B2
2	Total volumetric capacity of service reservoirs	2025/26 Remove Cooks castle -5Ml/d, 2025/26 Cooks castle replacement +4.75Ml/d, 2025/26 Perry Hill +8Ml/d, 2027/28 Yewhill +9Ml/d Confidence grade A2
3	Total volumetric capacity of water towers	Not demolishing any water towers so no change Confidence grade A2
4	Water delivered (non-potable)	APR23 performance flatlined for AMP7/8 forecast. Confidence grade A2
5	Water delivered (potable)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade A3
6	Water delivered (billed measured residential properties)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade A2
7	Water delivered (billed measured businesses)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade B3
8	Proportion of distribution input derived from impounding reservoirs	No new impounding reservoirs, proportions calculated in line with methodology. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
9	Proportion of distribution input derived from pumped storage reservoirs	No new pumped storage reservoirs, proportions calculated in line with methodology, slight changes due to other categories of water being made available. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
10	Proportion of distribution input derived from river abstractions	No new river abstractions, proportions calculated in line with methodology, slight changes due to other categories of water being made available. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
11	Proportion of distribution input derived from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes	2024/25 Smock Alley +3.12Ml/d, 2025/26 Rogate +1.6Ml/d 2027/28 East Woodhay improvement +1.2Ml/d, 2029/30 Keycol returned to service +1.8Ml/d, proportions calculated in line with methodology. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
12	Proportion of distribution input derived from artificial recharge (AR) water supply schemes	No new [redacted] portions calculated in line with methodology. Where multiple [redacted] proportion has been allocated accordingly.

		Confidence grade A2
13	Proportion of distribution input derived from aquifer storage and recovery (ASR) water supply schemes	No new aquifer storage and recovery schemes, proportions calculated in line with methodology. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
14	Proportion of distribution input derived from saline abstractions	Proportions calculated in line with methodology. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
15	Proportion of distribution input derived from water reuse schemes	Sandown(8.5Ml/d) recycling, DI assumed to be in 1:500 scenario rather than normal year. Proportions calculated in line with methodology. Where multiple treatments exist across a site, the proportion has been allocated accordingly. Confidence grade A2
16	Total number of potable water pumping stations that pump into and within the treated water distribution system	Sum of CW5.17 to CW5.20 Confidence grade A2 Historic growth rate stayed consistent at around 255 potable water pumping stations that pump into and within the treated water distribution system. There was a drop to about 239 potable water pumping stations that pump into and within the treated water distribution system in 2022/23 and from here we forecast a few new additions in AMP7 and AMP8. The drop in 2022/23 was largely due to a reduction in potable water pumping stations that re-pump water already within the treated water distribution system.
17	Number of potable water pumping stations delivering treated groundwater into the treated water distribution system	Assume no new potable water pumping stations delivering treated groundwater into the treated water distribution system Confidence grade A1
18	Number of potable water pumping stations delivering surface water into the treated water distribution system	Assume no new potable water pumping stations delivering surface water into the treated water distribution system Confidence grade A1
19	Number of potable water pumping stations that re-pump water already within the treated water distribution system	2024/25 Whitley bank (Cook's castle), 2025/26 Interzonal transfer (HSW-HRZ): Romsey Town and Broadlands valve (3.1Ml/d). The following 5 pumping stations will be completed in AMP8, assumed 1 per year: Thanet +1, IOW network reconfiguration +2, Bi-directional booseter at Crabwood +1, Redford booster station +1. Confidence grade A2
20	Number of potable water pumping stations that pump water imported from a 3rd party supply into the treated water distribution system	Assume no new potable water pumping stations that pump water imported from a 3rd party supply into the treated water distribution system Confidence grade AX
21	Total number of service reservoirs	2025/26 Remove Cooks Castle and add Cooks Castle replacement. 2025/26 Adds Perry hill therefore +1 Confidence grade A2
22	Number of water towers	Not demolishing any water towers so no change Confidence grade A1
23	Energy consumption – treated water distribution (MWh)	Confidence grade: D4.

24	Average pumping head – treated water distribution	APR23 performance flatlined for AMP7/8 forecast because RC23 year end audit identified potential issues with the method of calculation meaning forecast changes to APH caused by AMP7 & 8 schemes could lead to further inaccuracies. These are being looked into but we are not yet able to provide accurate information on the changes to APH they may cause. Confidence grade C3
25	Total number of treated water distribution imports	Import: SEW Kingston to KTZ Near Canterbury (2Ml/d) +1, Bulk import (SNZ): SES re-zoning extension (4Ml/d) already existing so no increase Confidence grade A2
26	Water imported from 3rd parties to treated water distribution systems	Import: SEW Kingston to KTZ Near Canterbury (2Ml/d), Bulk import (SNZ): SES re-zoning extension (4Ml/d) Confidence grade A2
27	Total number of treated water distribution exports	No new schemes will affect this number Confidence grade A2
28	Water exported to 3rd parties from treated water distribution systems	
29	Peak 7 day rolling average distribution input	For 2022-23 this is reported performance. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. This assumes that the peak 7 day rolling average distribution input is the same as the critical peak planning scenario in the draft WRMP24. The peak week varies year on year and is generally sometime in July or August. The actual peak week for 2022/23 occurred between 15th and 21st July 2022. Confidence grade A2
30	Peak 7 day rolling average distribution input / annual average distribution input	Calculated row (Ofwat formulae)
	Water balance - Company level	
31	Measured household consumption (excluding supply pipe leakage)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade A2
32	Unmeasured household consumption (excluding supply pipe leakage)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade A3
33	Measured non-household consumption (excluding supply pipe leakage)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade B3
34	Unmeasured non-household consumption (excluding supply pipe leakage)	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade B3
35	Total annual leakage	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. There are significant reductions in total leakage in 2023-24 and 2024-25. This is because of our leakage reduction plan for the remainder of AMP7 which seeks to bring leakage more in line with our PR19 forecast by committing extra resources to our leakage reduction activities. Confidence grade A3[redacted]

36	Distribution system operational use	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade A4
37	Water taken unbilled	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade A4
38	Distribution input	The 2022-23 figures are based on the convergence methodology. The figures from 2023-24 are forecast numbers from our revised draft WRMP24. Confidence grade B2
39	Distribution input (pre-MLE)	The figures from 2023-24 are assumed numbers based on past performance. Confidence grade B2
40-48	**Water balance - Region 1**	**Not Applicable for SRN - company level only**
49 -57	**Water balance - Region 2**	**Not Applicable for SRN - company level only**
	Components of total leakage (post MLE) - Company level	
58	Leakage upstream of DMA	2022/23 derived from operational programmes confidence grade A2 AMP7 Y3-5, AMP8 Y1-5, extrapolated based on WRMp and PR24 projections, confidence grade C5
59	Distribution main losses	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
60	Customer supply pipe losses – measured households excluding void propeties	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
61	Customer supply pipe losses – unmeasured households excluding void propeties	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
62	Customer supply pipe losses – measured non-households excluding void propeties	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
63	Customer supply pipe losses – unmeasured non-households excluding void propeties	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
64	Customer supply pipe losses – void measured households	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
65	Customer supply pipe losses – void unmeasured households	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
66	Customer supply pipe losses – void measured non-households	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
67	Customer supply pipe losses – void unmeasured non-households	AMP7 Taken from water Balance Annual Return and WRMP, Confidence Grade A2 AMP8 Taken from PR24 submission, subject to approval, Confidence Grade B4
68-77	**Components of total leakage (post MLE) - Region 1**	**Not Applicable for SRN**
78-87	**Components of total leakage (post MLE) - Region 2**	**Not Applicable for SRN**

CW6 - Water network+ - Mains, communication pipes and other data		
Line description		**Commentary**
	Treated water distribution - mains analysis	
There have been no changes in reporting methods or assumptions that have led to a material change in the reported figures. All changes are as a consequence of delivery plans and future forecasting.		
1	Total length of potable mains as at 31 March	Uses forecast from DS6.1. Estimated 66.9Km of new mains in 2023-24, 66.9Km of new mains in 2024-25, 69.05Km of new mains in 2025-26, 68.8Km of new mains in 2026-27, 122.7Km of new mains in 2027-28, 68.8Km of new mains in 2028-29 and 68.8Km of new mains in 2029-30. Confidence grade A2
2	Total length of potable mains relined	Calculated based on historic increase in mains lengths from 2011 to 2023, historically no relining reported. Confidence grade AX
3	Total length of potable mains renewed	2023/24 Fairlee road +2km, Swale +3km, Rownhams AMP7 carryover 14.8km, 2024/25 Rownhams AMP7 carryover 10.1km, 2025/26 20.45km Rownhams AMP7 carryover + 20km from mains replacement programme + 10.8km base expenditure, 2026/27 17.95km Rownhams AMP7 carryover + 40km from mains replacement programme + 10.8km base expenditure, 2027/28 11.8k Rownhams AMP7 carryover + 60km from mains replacement programme + 10.8km base expenditure, 2028/29 12km Rownhams AMP7 carryover + 80km from mains replacement programme + 10.8km base expenditure, 2029/30 5.2km Rownhams AMP7 carryover +100km from mains replacement programme + 10.8km base expenditure. Confidence grade A2
4	Total length of new potable mains	Uses forecast from DS6.1. Estimated 66.9Km of new mains in 2023-24, 66.9Km of new mains in 2024-25, 69.05Km of new mains in 2025-26, 68.8Km of new mains in 2026-27, 122.7Km of new mains in 2027-28, 68.8Km of new mains in 2028-29 and 68.8Km of new mains in 2029-30 Confidence grade A3
5	Total length of potable water mains (≤320mm)	Baseline year split between CW6.5, CW6.6, CW6.7 and CW6.8 applied to the total length of potable mains in CW6.1 Confidence grade B3
6	Total length of potable water mains (>320mm and ≤ 450mm)	
7	Total length of potable water mains (>450mm and ≤610mm)	
8	Total length of potable water mains (> 610mm)	
	Treated water distribution - mains age profile	
9	Total length of potable mains laid or structurally refurbished pre-1880	Base year ratio of the lines CW6.9 to CW6.16 will apply when removing mains that are to be relined from CW6.3 Confidence grade C4
10	Total length of potable mains laid or structurally refurbished between 1881 and 1900	
11	Total length of potable mains laid or structurally refurbished between 1901 and 1920	
12	Total length of potable mains laid or structurally refurbished between 1921 and 1940	

13	Total length of potable mains laid or structurally refurbished between 1941 and 1960	
14	Total length of potable mains laid or structurally refurbished between 1961 and 1980	
15	Total length of potable mains laid or structurally refurbished between 1981 and 2000	
16	Total length of potable mains laid or structurally refurbished between 2001 and 2020	
17	Total length of potable mains laid or structurally refurbished post 2021	All new mains and relined mains will be added to this total. 2023/24 Fairlee road +2km, Swale +3km, Rownhams 14.8km, 2024/25 Rownhams 10.1km, 2025/26 250km from mains replacement programme, 2026/27 250km from mains replacement programme, 2027/28 250km from mains replacement programme, 2028/29 175km from mains replacement programme, 2029/30 175km from mains replacement programme, new mains calculated based on historic increase in mains lengths from 2011 to 2023, historic average of 31.35km per year. Confidence grade C4
	Communication and supply pipes	
18	Number of lead communication pipes	Number of lead communication pipes replaced or relined for water quality: Long term average c50 per AMP, therefore c10 per year. Number of lead communication pipes replaced for other reasons: AMP7 c3000, ratioed with bulk to be delivered in the end of AMP7, c900 estimated for each of 2022-23, 2023-34, 2024-25. Long term average c250 per AMP, therefore c50 replaced during reactive leakage activity per year. Plus public buildings programme to replace 200 comm pipes in AMP8. Increasing programme starting with 15 comm pipes in year 1 of AMP. Plus WRMP programme to replace 600 comm pipes, starting at 80 per year increasing uniformly to 160 in year 5 of AMP. Confidence grade C5
19	Number of galvanised iron communication pipes	Won't lay any more galvanised iron pipes so figure will not change. Confidence grade C5
20	Number of other communication pipes	Assumed lead replacements from AMP8 mains replacement programme will appear in CW6.20, Number of lead communication pipes replaced or relined for water quality: Long term average c50 per AMP, therefore c10 per year. Number of lead communication pipes replaced for other reasons: AMP7 c3000, ratioed with bulk to be delivered in the end of AMP7, c900 estimated for each of 2022-23, 2023-34, 2024-25. Long term average c250 per AMP, therefore c50 replaced during reactive leakage activity per year. Plus public buildings programme to replace 200 comm pipes in AMP8. Increasing programme starting with 15 comm pipes in year 1 of AMP. Plus WRMP programme to replace 600 comm pipes, starting at 80 per year increasing uniformly to 160 in year 5 of AMP. Confidence grade C5
In addition to the recorded numbers we also anticipate that we will discover a significant number of lead comm and supply pipes whilst targeting leakage reduction through our mains renewal programme. These numbers have not been captured in the data lines due to the high level of uncertainty associated with them. Uncertainty comes from the following areas: • Total mains length – our WRMP proposals for demand management and hence leakage reduction and mains renewals will not be approved until 2024 at the earliest.		

• Location of mains renewal – the exact location of the mains which will be renewed will be dependent on the total length approved through WRMP and the leakage location data generated in AMP8. • Unknown take-up by customers of external and internal supply pipe replacement. Mains growth is linked with DS6 which includes mains required for new developments. We have an estimated number of future developments and an associated mains length.		
21	Number of lead communication pipes replaced or relined for water quality	Assume long term average c50 per AMP, therefore c10 per year.. Confidence grade C5
22	Number of lead communication pipes replaced for other reasons	AMP7 c3000, ratio with more to be delivered in the end of AMP7, c900 estimated for each of 2022-23, 2023-34, 2024-25. Long term average c250 per AMP, therefore c50 replaced during reactive leakage activity per year. Plus public buildings programme to replace 200 comm pipes in AMP8. Increasing programme starting with 15 comm pipes in year 1 of AMP. Plus WRMP programme to replace 600 comm pipes, starting at 80 per year increasing uniformly to 160 in year 5 of AMP. Confidence grade C5
23	Total length of lead communication pipes replaced or relined	Based on a typical street being 8m wide with two 1.5m pavements, a typical comm pipe length would be c5.5m. Based on this we would expect 413m replacement or relined in 2025/26, 523m in 2026/27 and 605m in each remaining year of AMP8. Confidence grade C5
24	Number of external lead supply pipes replaced or relined	Assuming that 100% of public building owners and 75% of home owners allow us to replace their external supply pipe when we replace the comm pipe leading to their property (The proposed percentage is uncertain) we would expect 60 replacement or relined pipes in 2025/26, 80 in 2026/27 and 95 in each remaining year of AMP8. Confidence grade C5
25	Total length of external lead supply pipes replaced or relined	Assuming typical length of external supply pipe matches typical length of comm pipe we would expect 330 m replacement or relined in 2025/26, 440m in 2026/27 and 523m in each remaining year of AMP8. Confidence grade C5
26	Number of internal lead supply pipes replaced or relined	Assuming that 100% of public building owners and 25% of home owners allow us to replace their external supply pipe when we replace the comm pipe leading to their property (the proposed percentage is uncertain) we would expect 30 replacements in 2025/26, 50 replacements in 2026/27 and 65 replacements in each remaining year of AMP8. Confidence grade C5
27	Total length of internal lead supply pipes replaced or relined	Assuming typical length of internal supply pipe matches typical length of comm pipe, profile of 165m in 2025/26, 275m in 2026/27 and 358m in the remaining three years of AMP8. Confidence grade C5
	Other	
28	Company area	Assume no change in company area therefore figure stays the same. Confidence grade C2
29	Compliance Risk Index	Forecast data results from straight line projection from 2022-23 position to reach the 2029-30 and 2034-35 targets set by the business. Please see our SRN18: Performance Commitments Methodologies Technical Annex for a detailed explanation of our approach and methodology.
30	Event Risk Index	2023/2024 is projected performance based on our 2023 score to date. Year on year variations are large due to the [redacted] which significantly impact this measure. For the

		purposes of these calculations, it has been assumed that there will be no Regulation 31 failures. WSR ingress will be resolved largely by 2025 with completion of majority of WSR inspections; assumed 25% reduction in 2025 and 10% each year thereafter. Discoloration and loss of supply events in distribution/zone will reduce by 50% by 2030. Assumed 10% per year from 2025. WSW events will reduce from 2025 to 2030 with site improvements at 4 surface water sites; assumed 10% reduction in 2027 after first major delivery phase and 5% per year thereafter. Confidence grade B5

CW6a- Transition and accelerated programme - Water network+ - Mains, communication pipes and other data		
Line description		**Commentary**
	CW6a all lines	
1-23	CW6a all lines	No transitional or accelerated programme of works relating to the lines in table CW6a therefore left blank. Data confidence grade: A1

CW7 - Demand management - Metering activities		
Line description		**Commentary**
	Metering activities - Totex expenditure	
1	New optant meter installation for existing customers	There are no costs input for any of CW7 rows 1 to 5 for AMP8, as we are pursuing a direct procurement solution. All smart metering costs are therefore included in SUP12 and RR9 Confidence grade B3. There are no basic or AMI meter installs up to the end of AMP7.
2	New selective meter installation for existing customers	We have deferred 33,870 unmetered conversions from AMP7 to AMP8 due to the complex nature of these installs. We intend to install smart AMI meters in these properties in AMP8. We have not included any costs associated with this activity in CW7.2 as it has been funded in AMP7. The installation profile falls into Reliability Band B and Accuracy Band 3 (outside +/- 5%, within +/-10%). Outturn meters replaced in any year are likely to differ from forecasts for operational reasons. There may be factors outside of our control that result in variation from forecast (e.g. availability of meters). Year on year variations reflect the variability in the size of Water Resource Zones in which replacements are completed in each year.
3	New business meter installation for existing customers	See CW7.1 commentary
4	Residential meters renewed	There are no smart metering costs included in CW7 or CW3. We are proposing to deliver smart metering through an alternative delivery model. All smart metering costs are therefore included in SUP12 and RR9.
5	Business meters renewed	See CW7.1 commentary
	Metering activities - Explanatory variables	
6	New optant meters installed for existing customers	There are no basic or AMI meter installs up to the end of AMP7. See CW7.7
7	New selective meters installed for existing customers	We have deferred 33,870 unmetered conversions from AMP7 to AMP8 due to the complex nature of these installs. We intend to install smart AMI meters in these properties in AMP8. We have not included any costs associated with this activity in CW7.2 as it has been funded in AMP7. The installation profile falls into Reliability Band B and Accuracy Band 3 (outside +/- 5%, within +/-10%). Outturn meters replaced in any year are likely to differ from forecasts for operational reasons. There may be factors outside of our control that result in variation from forecast (e.g. availability of meters). Year on year variations reflect the variability in the size of Water Resource Zones in which replacements are completed in each year.
8	New business meters installed for existing customers	There a[redacted] existing customers in AMP8.

9	Residential meters renewed	The replacement profile for meters has been estimated assuming an area-by-area rollout in which we will prioritise WRZs at greatest water stress. Annual replacements vary as the rollout scales up and due to the different size of the WRZs targeted each year. The replacement profile for meters falls into Reliability Band B and Accuracy Band 3 (outside +/- 5%, within +/-10%). Outturn meters replaced in any year are likely to differ from forecasts for operational reasons. There may be factors outside of our control that result in variation from forecast (e.g. availability of meters). Residential meters renewed are the sum of residential basic meters renewed and residential AMR meters renewed. Business meters renewed are the sum of business basic meters renewed and business AMR meters renewed. We only plan to replace existing meters with AMI meters in AMP8 and therefore the number of meters replaced with basic or AMR meters is 0 for 2025-26 to 2029-30.
10	Business meters renewed	See CW7.9 commentary
11	Replacement of basic meters with smart meters for household customers	See CW7.9 commentary
12	Replacement of AMR meter with AMI meters for household customers	See CW7.9 commentary
13	Replacement of basic meters with smart meters for business customers	See CW7.9 commentary
14	Replacement of AMR meter with AMI meters for business customers	See CW7.9 commentary
15	New residential meters installed for existing customers – supply-demand balance benefit	See CW7.9 commentary
16	New business meters installed for existing customers – supply-demand balance benefit	See CW7.8 commentary
17	Replacement of basic meter with smart meters for household customers – supply-demand balance benefit	Benefits relating to leakage reduction are excluded from this line as per Ofwat guidance PCC benefit attributed to smart metering Apportioned to volume of replacements (HH VMR, HH AMR, NHH VMR, NHH AMR) Profiled across each year of AMP8 PCC benefit attributed to smart metering increases from year to year in AMP8 as more smart meters are installed. No benefit is assumed in Year 1 of AMP8. The PCC benefit falls into Reliability Band C and Accuracy Band 5 (outside +/- 25%, within +/-50%). Estimates are based on extrapolation of a limited number of studies. PCC benefits in each year will be dependent on the number of smart meters installed and the resulting change in consumer behaviour.
18	Replacement of AMR meter with AMI meter for household customers– supply-demand balance benefit	See CW7.17 commentary
19	Replacement of basic meter with smart meters for business customers – supply-demand balance benefit	See CW[redacted]

20	Replacement of AMR meter with AMI meter for business customers– supply-demand balance benefit	See CW7.17 commentary
21	Residential properties - meter penetration	See SUP1.B commentary
	Per capita consumption (excluding supply pipe leakage)	
22	Per capita consumption (measured)	This figure applies to billed measured households and excludes underground supply pipe leakage. This value has been calculated from WRMP24 Table 3c as the property weighted average dry year annual average PCC, using rows 18FP (Measured HH – PCC) and 34 FP (Measured HH properties excluding voids). The PCC forecast represents the impact of all demand-side measured, including both metering and water efficiency.
23	Per capita consumption (unmeasured)	This figure applies to billed unmeasured households and excludes underground supply pipe leakage. This value has been calculated from WRMP24 Table 3c as the property weighted average dry year annual average PCC, using rows 19FP (Unmeasured HH – PCC) and 35 FP (Unmeasured HH properties excluding voids). The PCC forecast represents the impact of all demand-side measured, including both metering and water efficiency.
	Average unit cost of typical metering activities - new meter installation	
24	New meter installation - residential property - cost per property	During AMP7, we made the decision to repurpose activity from increasing penetration, to instead preparing for our 2025-2030 Smart Metering Programme due to the limited benefit expected with marginally increased penetration, and the urgency associated with our upcoming programme. We plan to deliver the new installations committed to PR19 during AMP8, without requesting additional allowance. Total savings from new meter installations in residential properties are calculated by multiplying the total number of new meter installations (CW7.7) by an assumed 16% reduction in consumption and the estimated consumption per property for unmetered properties in that year. The Ml/d benefit falls into Reliability Band C and Accuracy Band 5 (outside +/- 25%, within +/- 50%). Estimates are based on extrapolation of a limited number of studies. Water savings benefits in each year will be dependent on the number of new meter installations and the resulting change in consumer behavior.
25	New meter installation - business property - cost per property	We do not plan to undertake any new meter installations for business properties.
	Average unit cost of typical metering activities - meter replacement	
26	Replacement of existing basic meter - residential property - cost per property - total cost	We have used the industry meter replacement outturn data reported in the Annual Performance Review (APR) 2020-21 and 2021-22 data tables to calculate an efficient cost of like-for-like replacements of existing meters with basic and AMR meters. We have averaged the meter replacement unit cost for basic and AMR meters for each company over the two years for which data are available (2020-21 and 2021-22) and used the sector median as the benchmark. We continue to conduct market engagement activities to validate that these costs are efficient. We have assumed a communications hub will be required for all replacements on top of the like-for-like [redacted] We assume a cost of [redacted] to reflect this additional cost, which

		is the enhancement element of the total cost. Our estimate has been informed by responses to a recent RFI. The unit costs fall into Reliability Band B and Accuracy Band 4 (outside +/- 10%, within +/- 25%). Estimates are based on industry data, either reported in the APR or in RFIs. There is a risk that the like-for-like replacement cost component is too low, and underestimates the costs for remedial work associated with boundary boxes in a poor condition, as well as replacing larger meters (i.e., >32mm). We do not intend to install basic or AMR meters, only AMI capable meters by default.
27	Replacement of existing basic meter - residential property - enhancement element of total cost	See CW7.26 commentary
28	Replacement of existing basic meter - business property - cost per property - total cost	See CW7.26 commentary
29	Replacement of existing basic meter - business property - enhancement element of total cost	See CW7.26 commentary
30	Replacement of existing AMR meter - residential property - cost per property - total cost	See CW7.26 commentary
31	Replacement of existing AMR meter - residential property - enhancement element of total cost	See CW7.26 commentary
32	Replacement of existing AMR meter - business property - cost per property - total cost	See CW7.26 commentary
33	Replacement of existing AMR meter - business property - enhancement element of total cost	See CW7.26 commentary
	Average unit cost of typical metering activities - meter upgrade	
34	Upgrade of existing basic meter - residential property - cost per property - total cost	We do not intend to upgrade any existing basic or AMR meters, but instead replace these meters with AMI meters.
35	Upgrade of existing basic meter - residential property - enhancement element of total cost	See CW7.34 commentary
36	Upgrade of existing basic meter - business property - cost per property - total cost	See CW7.34 commentary
37	Upgrade of existing basic meter - business property - enhancement element of total cost	See CW7.34 commentary
38	Upgrade of existing AMR meter - residential property - cost per property - total cost	See CW7.34 commentary
39	Upgrade of existing AMR meter - residential property - enhancement element of total cost	See CW7.34 commentary
40	Upgrade of existing AMR meter - business property - cost per property - total cost	See CW7.34 commentary
41	Upgrade of existing AMR meter - business property - enhancement element of total cost	See CW7.34 commentary

	Average benefits of typical metering activities - new meter installations	
42	New meter installation - residential property - benefits per meter installation	See CW7.24 commentary
43	New meter installation - business property - benefits per meter installation	See CW7.25 commentary
	Average benefits of typical metering activities - meter replacement	
44	Replacement of existing basic meter - residential property - benefits per meter installation	PCC and leakage benefits attributed to smart metering increase from year to year in AMP8 as more smart meters are installed. No benefit is assumed in Year 1 of AMP8 for the PCC benefit and in Year 1 and 2 for the leakage benefit. The PCC and leakage benefits fall into Reliability Band C and Accuracy Band 5 (outside +/-25%, within +/-50%). Estimates are based on extrapolation of a limited number of studies. Benefits in each year will be dependent on the number of smart meters installed and the resulting change in consumer behaviour.
45	Replacement of existing basic meter - business property - benefits per meter installation	See CW7.44 commentary
46	Replacement of existing AMR meter - residential property - benefits per meter installation	See CW7.44 commentary
47	Replacement of existing AMR meter - business property - benefits per meter installation	See CW7.44 commentary
	Average benefits of typical metering activities - meter upgrade	
48	Upgrade of existing basic meter - residential property - benefits per meter installation	See CW7.34 commentary
49	Upgrade of existing basic meter - business property - benefits per meter installation	See CW7.34 commentary
50	Upgrade of existing AMR meter - residential property - benefits per meter installation	See CW7.34 commentary
51	Upgrade of existing AMR meter - business property - benefits per meter installation	See CW7.34 commentary

CW7a- Transition and accelerated programme - Demand management - Metering activities		
Line description		**Commentary**
	CW7a all lines	
1-23	CW7a all lines	No transitional or accelerated programme of works relating to the lines in table CW7a therefore left blank Data confidence grade: A1

CW8 - WRMP schemes (excluding leakage and metering activities)		
Line description		Commentary
	Scheme name	
1	Additional import from Portsmouth Water (Additional 21Ml/d)	Schemes included in CW8 represent the schemes selected by our best value plan for the draft revised WRMP24 (rdWRMP24) as part of WRSE regional planning. The schemes listed are comparable to preferred options in table 4,5 and 8 of the rdWRMP They are reported using the same scheme names and scheme references as WRMP24, as used for the WRSE model. Our WRMP is currently in draft and has not been signed off by the Secretary of State and hence is subject to change. CW8 also includes WRMP mitigation, which is to develop and deliver schemes to mitigate delays to Recycling; Littlehampton WwTW and the SRO. These mitigation options are still being discussed with our regulators. To align with the table format of CW8 which is limited to 50 lines, schemes with no AMP8 spend have been summed into a single line at the bottom of CW8 titled WRMP scheme spend AMP9. Those with no AMP8 spend are included in a supplementary table. To process the data into two separate sheets, schemes were filtered based on AMP8 Capex or Opex spend, those with no AMP8 spend were removed to a supplementary tab. Checks were made that no schemes were missed and that in splitting the schemes the key values of opex, capex and benefit are accurate. The schemes that make up this line have been included in a supplementary table (CW8 AMP9 and DPC) along side this commentary. These schemes in tandem with those in the CW8 Table are the supply side and internal interconnector schemes selected by our best value plan. This reflects our rdWRMP with the exception of the following updates to schemes: • SRO scheme cost profiles; These have been updated to align with project team cost profiles as the schemes have advanced since WRMP24 submission. • 3 groundwater schemes have been brought forward in the plan: These sites were identified as straightforward, no regrets adjustments that could be made to mitigate delays to the SRO and they were therefore brought forward manually. Four schemes have been selected for delivery via alternative delivery and therefore have been removed from CW8, to align with CW3.The following schemes have been removed from CW8 as they will be delivered via an DPC alternative funding pathway; .Recycling: Medway (Aylesford) WwTW, Recycling: Littlehampton (Ford) WwTW, Recycling: Sandown WwTW and Recycling: Sittingbourne WwTW. These schemes have been omitted from CW8, so that it aligns with CW3, but their forecast benefit is included in the supplementary tab (CW8 AMP9
2	Groundwater: Eastern Yar replacement BH (1.5Ml.d)	
3	Groundwater: Newchurch LGS (1.9Ml/d)	
4	Hampshire grid (reversible link HSE-HW)	
5	Hampshire grid (reversible link HW-HA)	
6	Import: Havant Thicket - Otterbourne direct raw water transfer (90Ml/d)	
7	New Reservoir - SESRO 150Mm3 (SWS: 29%)	
8	Newbury Groundwater	
9	Outwood To Turners Hill: 10Ml/d	
10	Romsey Groundwater	
11	Southampton link main 45 Ml/d (reversible link HSW-HSE)	
12	Storage: River Adur offline Reservoir - Planning	
13	T2ST Planning and Development	
14	Test MAR - Planning & Development	
15	Transfer: Romsey Town & Broadlands valve (HRZ-HSW) (3.1Ml//d)	
16	Home audits	
17	Tariffs	
18	Water efficiency enablers	
19	Water audits - Business	
20	Tariffs - business	
21	Partnership funds - business	
22	Comms - business	
23	Trials and innovation - business	
24	WRMP mitigation	

25	Transfer: Winter transfer Stage 2: New main Shoreham/North Shoreham and Brighton A (4Ml/d)	and DPC)Please see SUP 12.8 for total AMP 8 Project development costs and SUP 12.9 for total construction costs. CW8 AMP8 Capex and Opex values within CW8 align with CW3. Where a scheme has had AMP7 investment, this has been aligned to current AMP7 values, as used in CW3. The total values however will not align as CW3 only includes spend from 22-23, where as CW8 includes full AMP7 spend per scheme. CW3 also includes supply and demand capex and opex for WRMP19 schemes delivering in AMP7, that do not require enhancement spend in AMP8 and are therefore not in CW8. As part of our PR19 submission, we committed to deliver a number of long term supply and demand schemes identified as required by WRMP19. These schemes were covered by our long term supply and demand performance commitment are were: • **Ford Wastewater Treatment Works (WwTW) indirect potable water reuse (Recycling; Littlehampton WwTW) ;** • **Utilise full existing transfer capacity;** • **East Woodhay Water Supply Works (WSW) (Newbury Groundwater);** • Bournemouth Water supply from Knapp Mill; • Coastal desalination - Shoreham Harbour; • Sussex Coast - Lower Greensand; • **Hardham winter transfer: Stage 2;** • **Aylesford WwTW indirect potable water reuse - Eccles Lake (Recycling: Medway WwTW);** • **Sandown WwTW indirect potable water reuse (Recycling; Sandown WwTW); and** • **Internal interconnections (Southampton Link Main and Hampshire Grid).** The schemes highlighted in bold continue to be progressed as part of WRMP24. The 3 remaining schemes, Bournemouth Water supply from Knapp Mill, Coastal desalination and Sussex coast- Lower greensands, have been deemed unfeasible. Cost data included in CW8 will differ from WRMP24 as it has been adjusted to the 2022-23 price base based on CPHI values. Multipliers included in WRMP24 have been removed and reindexed expenditure values have adjusted to business approved multipliers for Indirect Costs, Risk and Corporate Overheads. Where an internal interconnector scheme is delivery new assets within AMP8, internal interconnector asset information has been populated using the WRMP24 fact files and design documents where available. As many of our interconnector schemes are bidirectional, which is represented as two schemes in the WRMP, the assets have only been recorded against one direction [redacted] avoid duplication of assets. At this stage of design a
26	Groundwater: recommission Gravesend source (2.7Ml/d)	
27	Transfer: Utilise full existing KME-KTZ transfer capacity (9Ml/d)	
28	Recycling: Recharge of Havant Thicket reservoir from Budds Farm and new WRP (60Ml/d)	
29	Groundwater: Lewes road (3.5Ml/d)	
30	Import: SEW Kingston to KTZ Near Canterbury (2Ml/d)	
31	Transfer: Winter transfer stage 1 - Provision of a permanent sludge treatment facility at Pulborough WSW (2Ml/d)	

		decision has not been made on pipe material therefore this information has not been included. Internal interconnector where the assets are already in place have not had the interconnector information added. No schemes are delivered as part of the green recovery programme or commenced as part of the accelerated delivery programme. WRSE modelling assumes that schemes are available from the start of each financial year, therefore for each scheme the full benefit will be available from this time and a full years opex has been included in the profile. We have not included any partial year opex costs. For schemes delivering benefit after 29-30, we have taken the average opex over the period to the end of the planning period. There are no schemes that we stop utilising after 2029-30. No schemes impacted by transitional expenditure.
40	*WRMP Scheme spend AMP9*	To align with the table format of CW8 which is limited to 50 lines, schemes with no AMP8 spend have been removed to the CW8 AMP9 and DPC supplementary tab. Data From the schemes within this supplementary tab have been summed and the value included in this line. Please note that the benefits (Ml/d) from the following DPC schemes Recycling: Medway (Aylesford) WwTW, Recycling: Littlehampton (Ford) WwTW, Recycling: Sandown WwTW and Recycling: Sittingbourne WwTW have not been included in this line and can be found in CW8 AMP9 and DPC supplementary tab.
51	Total	**This line totals the values of the rows above. See CW8.1-39 for commentary**

CW8 AMP9 and DPC - WRMP schemes (excluding leakage and metering activities). Supplementary table		
Line description		Commentary
	Scheme name	
52	Desalination: Isle of Sheppey (20Ml/d)	Schemes included in the CW8 AMP9 and DPC supplementary table represent the schemes selected by our best value plan for the draft revised WRMP24 (rdWRMP24) as part of WRSE regional planning that either have: • No AMP8 spend or; • Will be delivered by a DPC route. The schemes listed are comparable to preferred options in table 4,5 and 8 of the rdWRMP They are reported using the same scheme names and scheme references as WRMP24, as used for the WRSE model. Our WRMP is currently in draft and has not been signed off by the Secretary of State and hence is subject to change. The schemes in the CW8 AMP9 and DPC supplementary table, in tandem with those in the CW8 Table, are the supply side and internal interconnector schemes selected by our best value plan. This reflects our rdWRMP, please see the commentary for CW8 for commentary on the limited exceptions. Four schemes have been selected for delivery via alternative delivery and therefore they have been included in CW8 AMP9 and DPC (rather than CW8), to ensure alignment with CW3. These are; Recycling: Medway (Aylesford) WwTW, Recycling: Littlehampton (Ford) WwTW, Recycling: Sandown WwTW and Recycling: Sittingbourne WwTW. CW8 AMP9 and DPC includes their forecast benefit only, as associated totex, capex and opex can be found in SUP12. Please see SUP 12.8 for total AMP 8 Project development costs and SUP 12.9 for total construction costs. As part of our PR19 submission, we committed to deliver a number of long term supply and demand schemes identified as required by WRMP19. These schemes were covered by our long term supply and demand performance commitment are were: • Ford Wastewater Treatment Works (WwTW) indirect potable water reuse; • Utilise full existing transfer capacity; • East Woodhay Water Supply Works (WSW); • Bournemouth Water supply from Knapp Mill; • Coastal desalination - Shoreham Harbour; • Sussex Coast - Lower Greensand; • Hardham winter transfer: Stage 2; • Aylesford WwTW indirect potable water reuse - Eccles Lake;
53	Desalination: River Thames estuary (20Ml/d) Construction	
54	Desalination: River Thames estuary (20Ml/d) Phase 2	
55	Desalination: River Thames estuary (20Ml/d) Planning & Development	
56	Desalination: Tidal River Arun (10Ml/d)	
57	Hampshire grid (reversible link HA-HK)	
58	Hampshire grid (reversible link HA-HW)	
59	Hampshire grid (reversible link HK-HA)	
60	Hampshire grid (reversible link HW-HSE)	
61	Import from Portsmouth Water (additional 30Ml/d)	
62	New Bulk Supply: SWS to RZ8 - Brede to Kingsnorth (10Ml/d)	
63	Rye groundwater reconfiguration	
64	Southampton link main 45 Ml/d (reversible link HSE-HSW)	
65	Storage: Raising Bewl by 0.4m (3Ml/d)	
66	Storage: River Adur offline Reservoir - Construction	
67	T2ST 120 Ml/d Potable Culham-Otterbourne	
68	Test MAR - Construction	
69	Transfer: Romsey Town & Broadlands valve (HRZ to HSW)	
70	Transfer: Romsey Town & Broadlands valve (HSW to HRZ)	
71	Transfer: Romsey Town & Broadlands valve (HSW-HRZ) (3.1Ml//d)	
72	Western Rother licence and storage programme	
73	Havant Thicket To Pulborough WTW: 50Ml/d WTW Phase 2	
74	T2ST (120 Ml/d T2ST) Spur to Andover	
75	T2ST (120 Ml/d T2ST) Spur to Kingsclere	

76	Bulk import (HSE): PWC Gater's Mill to Otterbourne (21Ml/d)
77	Transfer: Utilise full existing KME-KTZ transfer capacity (9Ml/d) Reverse
78	Desalination: East Thanet coast & transfer (20Ml/d)
79	Canterbury (Broad Oak) to near Canterbury GW (20 Ml/d)
80	Transfer: KTZ-KME (14Ml/d)
81	Conjunctive use benefit (HSE): Budds Farm and Havant Thicket 20Ml/d
82	Import: PWC at Pulborough extension (15Ml/d)
83	Transfer: Bi-directional transfer (SWZ-SNZ) (15Ml/d)
84	Worthing to Brighton: 40Ml/d
85	Bulk import (SNZ): SES re-zoning extension (4Ml/d)
86	Recycling: Hastings WTW conjunctive use with Darwell reservoir (15.3Ml/d)
87	Groundwater: Petworth WSW return to service with a new borehole (4.0Ml/d)
88	Tilmore to Pulborough: 10Ml/d
89	Desalination: Tidal River Arun (20Ml/d) Phase 2
90	Pulborough to Worthing: 60Ml/d
91	Drought option - supply side (HSE): Candover drought permit/order (extension to 2034/35)
92	Drought option - supply side (HSW): Testwood drought permit (extension to 2034/5)
93	Havant Thicket To Pulborough WTW: 50Ml/d
94	Desalination: East Thanet coast & transfer (20Ml/d) Planning
95	Groundwater: Petworth WSW return to service with a new borehole (4.0Ml/d) - Planning
96	Recycling: Sandown WwTW (8.1Ml/d)
97	Recycling: Sittingbourne industrial reuse (7.5Mld)
98	Recycling: Medway WwTW (12.8Ml/d)
99	Recycling: Littlehampton WwTW (15Ml/d)

- Sandown WwTW indirect potable water reuse; and
- Internal interconnections.

The schemes highlighted in bold continue to be progressed as part of WRMP24. The 3 remaining schemes, Bournemouth Water supply from Knapp Mill, Coastal desalination and Sussex coast- Lowe greensands, have been deemed unfeasible.

Cost data included in CW8 will differ from WRMP24 as it has been adjusted to the 2022-23 price base based on CPHI values. Multipliers included in WRMP24 have been removed and reindexed expenditure values have adjusted to business approved multipliers for Indirect Costs, Risk and Corporate Overheads.
Internal interconnector asset information has been populated using the WRMP24 fact files and design documents where available. As many of our interconnector schemes are bidirectional, which is represented as two schemes in the WRMP, the assets have only been recorded against one direction of the internal interconnector to avoid duplication of assets. At this stage of design a decision has not been made on pipe material therefore this information has not been included. Internal interconnector schemes where the assets are already in place have not had the interconnector information added.

No schemes are delivered as part of the green recovery programme or commenced as part of the accelerated delivery programme.

WRSE modelling assumes that schemes are available from the start of each financial year, therefore for each scheme the full benefit will be available from this time and a full years opex has been included in the profile. We have not included any partial year opex costs. For schemes delivering benefit after 29-30, we have taken the average opex over the period to the end of the planning period.
No schemes impacted by transitional expenditure.

CW9 - Enhancement expenditure (cumulative) - water resources and water network+		
Line description		**Commentary**
	General comment	Cumulative expenditure on water enhancement schemes completed or anticipated to complete in financial years ending March 2023 to March 2030. For details of the schemes see table CW3

CW10 - Wholesale water local authority rates		
Line description		**Commentary**
	Rateable value	
1	Rateable value	Actual figures from VOA provided for 2022-23 from revaluation in April 2017
	Water wholesale local authority rates	
2	Wholesale Water business rates charge for current year before transitional relief	Business rates charge
3	Wholesale Water business rates transitional relief	
4	Wholesale Water business rates charge for current year after transitional relief	Revaluation due in April 2026, unknown what that increase will be. The UBR multiplier may change over the period however unknown what the changes will be. **Assumptions made;** • An increase for Water of 10% for the revaluation in April 2026 • CW10 Business rates charge (line 2) based on UBR multiplier of 0.512 which is the current multiplier.
5	Adjustments to wholesale water business rates charge for prior years	
6	[Other wholesale water business rates adjustments 1]	
7	[Other wholesale water business rates adjustments 2]	
8	[Other wholesale water business rates adjustments 3]	
9	Wholesale Water business rates forecast for Business Plan	
	Analysis of change in charge before transitional relief	
10	Change in wholesale water business rates costs from prior year	See above
11	Change in wholesale water business rates costs due to the impact of any revaluation	
12	Change in wholesale water business rates costs due to change in asset stock	
13	[Change in wholesale water business rates costs due to other 1]	
14	[Change in wholesale water business rates costs due to other 2]	
15	[Change in wholesale water business rates costs due to other 3]	
16	Change in wholesale water business rates charge before transitional relief	
17	Check difference	

CW11 - Third party costs by business unit for the wholesale water service		
Line description		**Commentary**
	Third party costs ~ price control (operating expenditure)	
1	Non potable water (which are not bulk supplies)	Nil
2	Rechargeable opex - Fluoridation	Nil
3	Rechargeable opex - Fire hydrant install & repair	Based on forecast for March 2025
4	Rechargeable opex - third party damage	Nil
5	Rechargeable opex - build over	Nil
6	Other rechargeable opex	Nil
7	Total third party water service costs ~ price control (operating expenditure)	Calculation
8	Diversions - s185 - opex	Based on forecast for March 2025
9	Diversions - NRSWA - opex	
10	Diversions - other non-section 185 diversions - opex	
11	Total third party water service costs ~ price control (operating expenditure)	Calculation
	Third party costs ~ non price control (operating expenditure)	
12	Bulk supplies (water) opex	Based on forecast for March 2025
13	Reservoir operating agreements opex	Nil
14	Other excluded charge opex	Nil
15	Total third party water service costs ~ non price control (operating expenditure)	Calculation
	Third party costs ~ price control (capital expenditure)	
16	Non potable water (which are not bulk supplies)	None assumed in plan based on historic activity.
17	Rechargeable capex - Fluoridation	
18	Rechargeable capex - Fire hydrant install & repair	
19	Rechargeable capex - third party damage	
20	Rechargeable capex - build over	
21	Other rechargeable capex	

22	Third party water price control capex excluding developer services	
23	Diversions - s185 - capex	No material variation in costs. Costs have been forecast in line with historic activity. Although the timing is anticipated to vary.
24	Diversions - NRSWA - capex	None assumed in plan based on historic activity.
25	Diversions - other non-section 185 diversions - capex	
26	Total third party water service costs ~ price control (capital expenditure)	Total calculation.
	Third party costs ~ non price control (capital expenditure)	
27	Bulk supplies (water) capex	No material variation in costs. Costs have been forecast in line with historic activity. Although the timing is anticipated to vary.
28	Reservoir operating agreements capex	None assumed in plan based on historic activity.
29	Other excluded charge capex	
30	Total third party water service costs ~ non price control (capital expenditure)	Total calculation.

CW12 - Transitional expenditure - water resources and water network+		
Line description		Commentary
	EA/NRW environmental programme (WINEP/NEP)	
1	Biodiversity and conservation; (WINEP/NEP) water capex	No transitional expenditure against this line
2	Biodiversity and conservation; (WINEP/NEP) water opex	No transitional expenditure against this line
3	Biodiversity and conservation; (WINEP/NEP) water totex	No transitional expenditure against this line
4	Eels/fish entrainment screens; (WINEP/NEP) water capex	No transitional expenditure against this line
5	Eels/fish entrainment screens; (WINEP/NEP) water opex	No transitional expenditure against this line
6	Eels/fish entrainment screens; (WINEP/NEP) water totex	No transitional expenditure against this line
7	Eels/fish passes; (WINEP/NEP) water capex	No transitional expenditure against this line
8	Eels/fish passes; (WINEP/NEP) water opex	No transitional expenditure against this line
9	Eels/fish passes; (WINEP/NEP) water totex	No transitional expenditure against this line
10	Invasive Non Native Species; (WINEP/NEP) water capex	No transitional expenditure against this line
11	Invasive Non Native Species; (WINEP/NEP) water opex	No transitional expenditure against this line
12	Invasive Non Native Species; (WINEP/NEP) water totex	No transitional expenditure against this line
13	Drinking Water Protected Areas; (WINEP/NEP) water capex	No transitional expenditure against this line
14	Drinking Water Protected Areas; (WINEP/NEP) water opex	No transitional expenditure against this line
15	Drinking Water Protected Areas; (WINEP/NEP) water totex	No transitional expenditure against this line
16	Water Framework Directive; (WINEP/NEP) water capex	No transitional expenditure against this line
17	Water Framework Directive; (WINEP/NEP) water opex	No transitional expenditure against this line
18	Water Framework Directive; (WINEP/NEP) water totex	No transitional expenditure against this line
19	Wetland creation; (WINEP/NEP) water capex	No transitional expenditure against this line
20	Wetland creation; (WINEP/NEP) water opex	No transitional expenditure against this line
21	Wetland creation; (WINEP/NEP) water totex	No transitional expenditure against this line
22	Trade effluent discharge flow monitoring; (WINEP/NEP) water capex	No transitional expenditure against this line
23	Trade effluent discharge flow monitoring; (WINEP/NEP) water opex	No transitional expenditure against this line

24	Trade effluent discharge flow monitoring; (WINEP/NEP) water totex	No transitional expenditure against this line
25	25 year environment plan; (WINEP/NEP) water capex	No transitional expenditure against this line
26	25 year environment plan; (WINEP/NEP) water opex	No transitional expenditure against this line
27	25 year environment plan; (WINEP/NEP) water totex	No transitional expenditure against this line
28	Investigations; (WINEP/NEP) - desk based study only water capex	No transitional expenditure against this line
29	Investigations; (WINEP/NEP) - desk based study only water opex	No transitional expenditure against this line
30	Investigations; (WINEP/NEP) - desk based study only water totex	No transitional expenditure against this line
31	Investigations; (WINEP/NEP) - survey, monitoring or simple modelling water capex	No transitional expenditure against this line
32	Investigations; (WINEP/NEP) - survey, monitoring or simple modelling water opex	No transitional expenditure against this line
33	Investigations; (WINEP/NEP) - survey, monitoring or simple modelling water totex	No transitional expenditure against this line
34	Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water capex	No transitional expenditure against this line
35	Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water opex	No transitional expenditure against this line
36	Investigations; (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water totex	No transitional expenditure against this line
37	Investigations total; (WINEP/NEP) water capex	No transitional expenditure against this line
38	Investigations total; (WINEP/NEP) water opex	No transitional expenditure against this line
39	Investigations total; (WINEP/NEP) water totex	No transitional expenditure against this line
40	Total environmental programme expenditure; (WINEP/NEP) water totex	No transitional expenditure against this line
	Supply-demand balance	
41	Supply-side improvements delivering benefits in 2025-2030; SDB capex	No transitional expenditure against this line
42	Supply-side improvements delivering benefits in 2025-2030; SDB opex	No transitional expenditure against this line
43	Supply-side improvements delivering benefits in 2025-2030; SDB totex	No transitional expenditure against this line
44	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); SDB capex	No transitional expenditure against this line

45	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); SDB opex	No transitional expenditure against this line
46	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); SDB totex	No transitional expenditure against this line
47	Leakage improvements delivering benefits in 2025-2030; SDB capex	No transitional expenditure against this line
48	Leakage improvements delivering benefits in 2025-2030; SDB opex	No transitional expenditure against this line
49	Leakage improvements delivering benefits in 2025-2030; SDB totex	No transitional expenditure against this line
50	Internal interconnectors delivering benefits in 2025-2030; SDB capex	All costs are in relation to the Hampshire grid reversible links
51	Internal interconnectors delivering benefits in 2025-2030; SDB opex	No transitional expenditure against this line
52	Internal interconnectors delivering benefits in 2025-2030; SDB totex	No transitional expenditure against this line
53	Supply demand balance improvements delivering benefits starting from 2031; SDB capex	No transitional expenditure against this line
54	Supply demand balance improvements delivering benefits starting from 2031; SDB opex	No transitional expenditure against this line
55	Supply demand balance improvements delivering benefits starting from 2031; SDB totex	All costs are in relation to Havant Thicket – both the Otterbourne direct water transfer and the recharge of Havant Thicket reservoir from Budds Farm and new WRP
56	Total supply demand expenditure; SDB totex	
	Metering	
57	New meters requested by existing customers (optants); metering capex	No transitional expenditure against this line
58	New meters requested by existing customers (optants); metering opex	No transitional expenditure against this line
59	New meters requested by existing customers (optants); metering totex	No transitional expenditure against this line
60	New meters introduced by companies for existing customers; metering capex	No transitional expenditure against this line
61	New meters introduced by companies for existing customers; metering opex	No transitional expenditure against this line
62	New meters introduced by companies for existing customers; metering totex	No transitional expenditure against this line
63	New meters for existing customers - business; metering capex	No transitional expenditure against this line
64	New meters for existing customers - business; metering opex	No transitional expenditure against this line
65	New meters for existing customers - business; metering totex	No transitional expenditure against this line

66	Replacement of existing basic meters with AMR meters for residential customers; metering capex	No transitional expenditure against this line
67	Replacement of existing basic meters with AMR meters for residential customers; metering opex	No transitional expenditure against this line
68	Replacement of existing basic meters with AMR meters for residential customers; metering totex	No transitional expenditure against this line
69	Replacement of existing basic meters with AMI meters for residential customers; metering capex	No transitional expenditure against this line
70	Replacement of existing basic meters with AMI meters for residential customers; metering opex	No transitional expenditure against this line
71	Replacement of existing basic meters with AMI meters for residential customers; metering totex	No transitional expenditure against this line
72	Replacement of existing AMR meters with AMI meters for residential customers; metering capex	No transitional expenditure against this line
73	Replacement of existing AMR meters with AMI meters for residential customers; metering opex	No transitional expenditure against this line
74	Replacement of existing AMR meters with AMI meters for residential customers; metering totex	No transitional expenditure against this line
75	Replacement of existing basic meters with AMR meters for business customers; metering capex	No transitional expenditure against this line
76	Replacement of existing basic meters with AMR meters for business customers; metering opex	No transitional expenditure against this line
77	Replacement of existing basic meters with AMR meters for business customers; metering totex	No transitional expenditure against this line
78	Replacement of existing basic meters with AMI meters for business customers; metering capex	No transitional expenditure against this line
79	Replacement of existing basic meters with AMI meters for business customers; metering opex	No transitional expenditure against this line
80	Replacement of existing basic meters with AMI meters for business customers; metering totex	No transitional expenditure against this line
81	Replacement of existing AMR meters with AMI meters for business customers; metering capex	No transitional expenditure against this line
82	Replacement of existing AMR meters with AMI meters for business customers; metering opex	No transitional expenditure against this line
83	Replacement of existing AMR meters with AMI meters for business customers; metering totex	No transitional expenditure against this line
84	Smart meter infrastructure; metering capex	No transitional expenditure against this line
85	Smart meter infrastructure; metering opex	No transitional expenditure against this line
86	Smart meter infrastructure; metering totex	No transitional expenditure against this line

87	Total metering expenditure; metering totex	No transitional expenditure against this line
	Water quality improvements	
88	Improvements to taste, odour and colour (grey solutions); enhancement capex	No transitional expenditure against this line
89	Improvements to taste, odour and colour (grey solutions); enhancement opex	No transitional expenditure against this line
90	Improvements to taste, odour and colour (grey solutions); enhancement totex	No transitional expenditure against this line
91	Improvements to taste, odour and colour (green solutions); enhancement capex	No transitional expenditure against this line
92	Improvements to taste, odour and colour (green solutions); enhancement opex	No transitional expenditure against this line
93	Improvements to taste, odour and colour (green solutions); enhancement totex	No transitional expenditure against this line
94	Addressing raw water quality deterioration (grey solutions); enhancement capex	No transitional expenditure against this line
95	Addressing raw water quality deterioration (grey solutions); enhancement opex	No transitional expenditure against this line
96	Addressing raw water quality deterioration (grey solutions); ; enhancement totex	No transitional expenditure against this line
97	Addressing raw water quality deterioration (green solutions); enhancement capex	No transitional expenditure against this line
98	Addressing raw water quality deterioration (green solutions); enhancement opex	No transitional expenditure against this line
99	Addressing raw water quality deterioration (green solutions); enhancement totex	No transitional expenditure against this line
100	Conditioning water to reduce plumbosolvency; enhancement capex	No transitional expenditure against this line
101	Conditioning water to reduce plumbosolvency; enhancement opex	No transitional expenditure against this line
102	Conditioning water to reduce plumbosolvency; enhancement totex	No transitional expenditure against this line
103	Lead communication pipes replaced or relined; enhancement capex	No transitional expenditure against this line
104	Lead communication pipes replaced or relined; enhancement opex	No transitional expenditure against this line
105	Lead communication pipes replaced or relined; enhancement totex	No transitional expenditure against this line
106	External lead supply pipes replaced or relined; enhancement capex	No transitional expenditure against this line

107	External lead supply pipes replaced or relined; enhancement opex	No transitional expenditure against this line
108	External lead supply pipes replaced or relined; enhancement totex	No transitional expenditure against this line
109	Internal lead supply pipes replaced or relined; enhancement capex	No transitional expenditure against this line
110	Internal lead supply pipes replaced or relined; enhancement opex	No transitional expenditure against this line
111	Internal lead supply pipes replaced or relined; enhancement totex	No transitional expenditure against this line
112	Other lead reduction related activity; enhancement capex	No transitional expenditure against this line
113	Other lead reduction related activity; enhancement opex	No transitional expenditure against this line
114	Other lead reduction related activity; enhancement totex	No transitional expenditure against this line
	Water resilience and security	
115	Resilience; enhancement water capex	No transitional expenditure against this line
116	Resilience; enhancement water opex	No transitional expenditure against this line
117	Resilience; enhancement water totex	No transitional expenditure against this line
118	Security - SEMD; enhancement water capex	No transitional expenditure against this line
119	Security - SEMD; enhancement water opex	No transitional expenditure against this line
120	Security - SEMD; enhancement water totex	No transitional expenditure against this line
121	Security - Cyber; enhancement water capex	No transitional expenditure against this line
122	Security - Cyber; enhancement water opex	No transitional expenditure against this line
123	Security - Cyber; enhancement water totex	No transitional expenditure against this line
	Net zero	
124	Greenhouse gas reduction (net zero); enhancement water capex	No transitional expenditure against this line
125	Greenhouse gas reduction (net zero); enhancement water opex	No transitional expenditure against this line
126	Greenhouse gas reduction (net zero); enhancement water totex	No transitional expenditure against this line
	Other enhancement (Freeform lines - by exception)	
127	Additional line 1; enhancement water capex	No transitional expenditure against this line
128	Additional line 1; enhancement water opex	No transitional expenditure against this line

129	Additional line 2; enhancement water capex	No transitional expenditure against this line
130	Additional line 2; enhancement water opex	No transitional expenditure against this line
131	Additional line 3; enhancement water capex	No transitional expenditure against this line
132	Additional line 3; enhancement water opex	No transitional expenditure against this line
133	Additional line 4; enhancement water capex	No transitional expenditure against this line
134	Additional line 4; enhancement water opex	No transitional expenditure against this line
135	Additional line 5; enhancement water capex	No transitional expenditure against this line
136	Additional line 5; enhancement water opex	No transitional expenditure against this line
137	Total other enhancement water expenditure	No transitional expenditure against this line
	Total transitional expenditure	
138	Total transitional expenditure; water capex	No transitional expenditure against this line
139	Total transitional expenditure; water opex	No transitional expenditure against this line
140	Total transitional expenditure; water totex	No transitional expenditure against this line

CW13 - Best value analysis (enhancement expenditure) - water resources and water network+		
Line description		**Commentary**
	EA/NRW environmental programme (WINEP/NEP)	
1	Biodiversity and conservation; BVA (WINEP/NEP) water capex	
2	Biodiversity and conservation; BVA (WINEP/NEP) water opex	
3	Biodiversity and conservation; BVA (WINEP/NEP) water totex	
4	Biodiversity and conservation; BVA (WINEP/NEP) water third party contributions	
5	Eels/fish entrainment screens; BVA (WINEP/NEP) water capex	
6	Eels/fish entrainment screens; BVA (WINEP/NEP) water opex	
7	Eels/fish entrainment screens; BVA (WINEP/NEP) water totex	
8	Eels/fish entrainment screens; BVA (WINEP/NEP) water third party contributions	
9	Eels/fish passes; BVA (WINEP/NEP) water capex	
10	Eels/fish passes; BVA (WINEP/NEP) water opex	
11	Eels/fish passes; BVA (WINEP/NEP) water totex	
12	Eels/fish passes; BVA (WINEP/NEP) water third party contributions	
13	Invasive Non Native Species; BVA (WINEP/NEP) water capex	**See enhancement business case SRN33 – WINEP – Supporting Water Abstraction for details.**
14	Invasive Non Native Species; BVA (WINEP/NEP) water opex	
15	Invasive Non Native Species; BVA (WINEP/NEP) water totex	
16	Invasive Non Native Species; BVA (WINEP/NEP) water third party contributions	
17	Drinking Water Protected Areas; BVA (WINEP/NEP) water capex	
18	Drinking Water Protected Areas; BVA (WINEP/NEP) water opex	
19	Drinking Water Protected Areas; BVA (WINEP/NEP) water totex	
20	Drinking Water Protected Areas; BVA (WINEP/NEP) water third party contributions	
21	Water Framework Directive; BVA (WINEP/NEP) water capex	
22	Water Framework Directive; BVA (WINEP/NEP) water opex	
23	Water Framework Directive; BVA (WINEP/NEP) water totex	
24	Water Framework Directive; BVA (WINEP/NEP) water third party contributions	

25	Wetland creation; BVA (WINEP/NEP) water capex
26	Wetland creation; BVA (WINEP/NEP) water opex
27	Wetland creation; BVA (WINEP/NEP) water totex
28	Wetland creation; BVA (WINEP/NEP) water third party contributions
29	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water capex
30	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water opex
31	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water totex
32	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water third party contributions
33	25 year environment plan; BVA (WINEP/NEP) water capex
34	25 year environment plan; BVA (WINEP/NEP) water opex
35	25 year environment plan; BVA (WINEP/NEP) water totex
36	25 year environment plan; BVA (WINEP/NEP) water third party contributions
37	Investigations; BVA (WINEP/NEP) - desk based study only water capex
38	Investigations; BVA (WINEP/NEP) - desk based study only water opex
39	Investigations; BVA (WINEP/NEP) - desk based study only water totex
40	Investigations; BVA (WINEP/NEP) - desk based study only water third-party contributions
41	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water capex
42	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water opex
43	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water totex
44	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water third-party contributions
45	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water capex
46	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water opex
47	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water totex

48	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water third-party contributions	
49	Investigations total; BVA (WINEP/NEP) water capex	
50	Investigations total; BVA (WINEP/NEP) water opex	
51	Investigations total; BVA (WINEP/NEP) water totex	
52	Investigations total; BVA (WINEP/NEP) water third-party contributions	
53	Total environmental programme expenditure; BVA (WINEP/NEP) water capex	
54	Total environmental programme expenditure; BVA (WINEP/NEP) water opex	
55	Total environmental programme expenditure; BVA (WINEP/NEP) water totex	
56	Total environmental programme expenditure; BVA (WINEP/NEP) water third party contributions	
	Supply-demand balance	
57	Supply-side improvements delivering benefits in 2025-2030; BVA SDB capex	**See enhancement Business Case SRN26 – Water Resources – Supply**
58	Supply-side improvements delivering benefits in 2025-2030; BVA SDB opex	
59	Supply-side improvements delivering benefits in 2025-2030; BVA SDB totex	
60	Supply-side improvements delivering benefits in 2025-2030; BVA SDB third party contributions	
61	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB capex	**See enhancement Business Case SRN27 – Water Resources – Demand**
62	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB opex	
63	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB totex	
64	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB third party contributions	
65	Leakage improvements delivering benefits in 2025-2030; BVA SDB capex	
66	Leakage improvements delivering benefits in 2025-2030; BVA SDB opex	
67	Leakage improvements delivering benefits in 2025-2030; BVA SDB totex	
68	Leakage improvements delivering benefits in 2025-2030; BVA SDB third party contributions	

69	Internal interconnectors delivering benefits in 2025-2030; BVA SDB capex	**See enhancement Business Case SRN26 – Water Resources – Supply**
70	Internal interconnectors delivering benefits in 2025-2030; BVA SDB opex	
71	Internal interconnectors delivering benefits in 2025-2030; BVA SDB totex	
72	Internal interconnectors delivering benefits in 2025-2030; BVA SDB third party contributions	
73	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB capex	
74	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB opex	
75	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB totex	
76	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB third party contributions	
77	Total supply demand expenditure; BVA SDB capex	
78	Total supply demand expenditure; BVA SDB opex	
79	Total supply demand expenditure; BVA SDB totex	
80	Total supply demand expenditure; BVA SDB third party contributions	
	Metering	
81	New meters requested by existing customers (optants); BVA metering capex	**For details, see enhancement Business Case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model**
82	New meters requested by existing customers (optants); BVA metering opex	
83	New meters requested by existing customers (optants); BVA metering totex	
84	New meters requested by existing customers (optants); BVA metering third party contributions	
85	New meters introduced by companies for existing customers; BVA metering capex	
86	New meters introduced by companies for existing customers; BVA metering opex	
87	New meters introduced by companies for existing customers; BVA metering totex	
88	New meters introduced by companies for existing customers; BVA metering third party contributions	
89	New meters for existing customers - business; BVA metering capex	

90	New meters for existing customers - business; BVA metering opex
91	New meters for existing customers - business; BVA metering totex
92	New meters for existing customers - business; BVA metering third party contributions
93	Replacement of existing basic meters with AMR meters for residential customers; BVA metering capex
94	Replacement of existing basic meters with AMR meters for residential customers; BVA metering opex
95	Replacement of existing basic meters with AMR meters for residential customers; BVA metering totex
96	Replacement of existing basic meters with AMR meters for residential customers; BVA metering third party contributions
97	Replacement of existing basic meters with AMI meters for residential customers; BVA metering capex
98	Replacement of existing basic meters with AMI meters for residential customers; BVA metering opex
99	Replacement of existing basic meters with AMI meters for residential customers; BVA metering totex
100	Replacement of existing basic meters with AMI meters for residential customers; BVA metering third party contributions
101	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering capex
102	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering opex
103	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering totex
104	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering third party contributions
105	Replacement of existing basic meters with AMR meters for business customers; BVA metering capex
106	Replacement of existing basic meters with AMR meters for business customers; BVA metering opex
107	Replacement of existing basic meters with AMR meters for business customers; BVA metering totex
108	Replacement of existing basic meters with AMR meters for business customers; BVA metering third party contributions
109	Replacement of existing basic meters with AMI meters for business customers; BVA metering capex

110	Replacement of existing basic meters with AMI meters for business customers; BVA metering opex	
111	Replacement of existing basic meters with AMI meters for business customers; BVA metering totex	
112	Replacement of existing basic meters with AMI meters for business customers; BVA metering third party contributions	
113	Replacement of existing AMR meters with AMI meters for business customers; BVA metering capex	
114	Replacement of existing AMR meters with AMI meters for business customers; BVA metering opex	
115	Replacement of existing AMR meters with AMI meters for business customers; BVA metering totex	
116	Replacement of existing AMR meters with AMI meters for business customers; BVA metering third party contributions	
117	Smart meter infrastructure; BVA metering capex	
118	Smart meter infrastructure; BVA metering opex	
119	Smart meter infrastructure; BVA metering totex	
120	Smart meter infrastructure; BVA metering third party contributions	
121	Total metering expenditure; BVA metering capex	
122	Total metering expenditure; BVA metering opex	
123	Total metering expenditure; BVA metering totex	
124	Total metering expenditure; BVA metering third party contributions	
	Water quality improvements	
125	Improvements to taste, odour and colour (grey solutions); BVA enhancement capex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
126	Improvements to taste, odour and colour (grey solutions); BVA enhancement opex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
127	Improvements to taste, odour and colour (grey solutions); BVA enhancement totex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
128	Improvements to taste, odour and colour (grey solutions); BVA enhancement totex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
129	Improvements to taste, odour and colour (green solutions); BVA enhancement capex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
130	Improvements to taste, odour and colour (green solutions); BVA enhancement opex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
131	Improvements to taste, odour and colour (green solutions); BVA enhancement totex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8

132	Improvements to taste, odour and colour (green solutions); BVA enhancement totex	£0. No known taste, odour and colour issues requiring enhancement spend in AMP8
133	Conditioning water to reduce plumbosolvency; BVA enhancement capex	No enhancement spend to reduce plumbosolvency
134	Conditioning water to reduce plumbosolvency; BVA enhancement opex	No enhancement spend to reduce plumbosolvency
135	Conditioning water to reduce plumbosolvency; BVA enhancement totex	No enhancement spend to reduce plumbosolvency
136	Conditioning water to reduce plumbosolvency; BVA enhancement third party contributions	No enhancement spend to reduce plumbosolvency
137	Lead communication pipes replaced or relined; BVA enhancement capex	See SRN31 Lead Enhancement Business Case, for further details.
138	Lead communication pipes replaced or relined; BVA enhancement opex	See SRN31 Lead Enhancement Business Case, for further details.
139	Lead communication pipes replaced or relined; BVA enhancement totex	See SRN31 Lead Enhancement Business Case, for further details
140	Lead communication pipes replaced or relined; BVA enhancement third party contributions	See SRN31 Lead Enhancement Business Case, for further details.
141	External lead supply pipes replaced or relined; BVA enhancement capex	See SRN31 Lead Enhancement Business Case, for further details
142	External lead supply pipes replaced or relined; BVA enhancement opex	See SRN31 Lead Enhancement Business Case, for further details.
143	External lead supply pipes replaced or relined; BVA enhancement totex	See SRN31 Lead Enhancement Business Case, for further details
144	External lead supply pipes replaced or relined; BVA enhancement third party contributions	See SRN31 Lead Enhancement Business Case, for further details.
145	Internal lead supply pipes replaced or relined; BVA enhancement capex	See SRN31 Lead Enhancement Business Case, for further details
146	Internal lead supply pipes replaced or relined; BVA enhancement opex	See SRN31 Lead Enhancement Business Case, for further details.
147	Internal lead supply pipes replaced or relined; BVA enhancement totex	See SRN31 Lead Enhancement Business Case, for further details
148	Internal lead supply pipes replaced or relined; BVA enhancement third party contributions	See SRN31 Lead Enhancement Business Case, for further details.
149	Other lead reduction related activity; BVA enhancement capex	See SRN31 Lead Enhancement Business Case, for further details.
150	Other lead reduction related activity; BVA enhancement opex	See SRN31 Lead Enhancement Business Case, for further details.
151	Other lead reduction related activity; BVA enhancement totex	See SRN31 Lead Enhancement Business Case, for further details.
152	Other lead reduction related activity; BVA enhancement third party contributions	See SRN31 Lead Enhancement Business Case, for further details.
153	Addressing raw water quality deterioration (grey solutions); BVA enhancement capex	See SRN[redacted] Enhancement Business Case, for further details.

154	Addressing raw water quality deterioration (grey solutions); BVA enhancement opex	See SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
155	Addressing raw water quality deterioration (grey solutions); BVA enhancement totex	See SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
156	Addressing raw water quality deterioration (grey solutions); BVA enhancement third party contributions	See SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
157	Addressing raw water quality deterioration (green solutions); BVA enhancement capex	Green solutions such as catchment management are funded through WINEP
158	Addressing raw water quality deterioration (green solutions); BVA enhancement opex	Green solutions such as catchment management are funded through WINEP
159	Addressing raw water quality deterioration (green solutions); BVA enhancement totex	Green solutions such as catchment management are funded through WINEP
160	Addressing raw water quality deterioration (green solutions); BVA enhancement third party contributions	Green solutions such as catchment management are funded through WINEP
161	Total water quality enhancement expenditure; BVA enhancement capex	Sum of relevant lines above.
162	Total water quality enhancement expenditure; BVA enhancement opex	Sum of relevant lines above.
163	Total water quality enhancement expenditure; BVA enhancement totex	Sum of relevant lines above.
164	Total water quality enhancement expenditure; BVA enhancement third party contributions	Sum of relevant lines above.
	Water resilience and security	
165	Resilience; BVA enhancement water capex	• Supply Resilience Enhancement Programme to upgrade our 4 largest sites. . See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • Operational resilience enhancements to improve heat and power resilience. See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details
166	Resilience; BVA enhancement water opex	• Supply Resilience Enhancement Programme to upgrade our 4 largest sites. . See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • Operational resilience enhancements to improve heat and power resilience. See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details

167	Resilience; BVA enhancement water totex	• Supply Resilience Enhancement Programme to upgrade our 4 largest sites. . See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • Operational resilience enhancements to improve heat and power resilience. See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details
168	Resilience; BVA enhancement water third party contributions	• Supply Resilience Enhancement Programme to upgrade our 4 largest sites. . See SRN25 Supply Resilience Enhancement Programme Enhancement Business Case, for further details. • Disinfection Future Resilience Programme. See SRN30 Raw Water Deterioration Enhancement Business Case, for further details. • Operational resilience enhancements to improve heat and power resilience. See SRN51 Resilience - Heat Enhancement Business Case and SRN49 Resilience - Power Enhancement Business Case, for further details
169	Security - SEMD; BVA enhancement water capex	See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details.
170	Security - SEMD; BVA enhancement water opex	See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details
171	Security - SEMD; BVA enhancement water totex	See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details.
172	Security - SEMD; BVA enhancement water third party contributions	See SRN35 Security and Emergency Measures Direction, Enhancement Business Case for further details
173	Security - cyber; BVA enhancement water capex	See SRN34 Network & Information Systems Enhancement Business Case, for further details.
174	Security - cyber; BVA enhancement water opex	See SRN34 Network & Information Systems Enhancement Business Case, for further details.
175	Security - cyber; BVA enhancement water totex	See SRN34 Network & Information Systems Enhancement Business Case, for further details.
176	Security - cyber; BVA enhancement water third party contributions	See SRN34 Network & Information Systems Enhancement Business Case, for further details.
177	Total resilience enhancement expenditure; BVA enhancement water capex	Sum of relevant lines above
178	Total resilience enhancement expenditure; BVA enhancement water opex	Sum of relevant lines above
179	Total resilience enhancement expenditure; BVA enhancement water totex	Sum of relevant lines above
180	Total resilience enhancement expenditure; BVA enhancement water third party contributions	Sum of relevant lines above
	Net zero	
181	Greenhouse gas reduction (net zero); BVA enhancement water capex	No expenditure against these lines

182	Greenhouse gas reduction (net zero); BVA enhancement water opex	
183	Greenhouse gas reduction (net zero); BVA enhancement water totex	
184	Greenhouse gas reduction (net zero); BVA enhancement water third party contributions	
	Additional - freeform enhancement lines	
185	Additional line 1; BVAA enhancement water capex	For details, see enhancement Business Case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model
186	Additional line 1; BVAA enhancement water opex	
187	Additional line 1; BVAA enhancement water totex	
188	Additional line 1; BVAA enhancement water third party contributions	
189	Additional line 2; BVAA enhancement water capex	See SRN32 Reservoir Safety Enhancement Business Case, and SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
190	Additional line 2; BVAA enhancement water opex	See SRN32 Reservoir Safety Enhancement Business Case, and SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
191	Additional line 2; BVAA enhancement water totex	See SRN32 Reservoir Safety Enhancement Business Case, and SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
192	Additional line 2; BVAA enhancement water third party contributions	See SRN32 Reservoir Safety Enhancement Business Case, and SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
193	Additional line 3; BVAA enhancement water capex	See SRN27 Water Resources – Demand for details
194	Additional line 3; BVAA enhancement water opex	
195	Additional line 3; BVAA enhancement water totex	
196	Additional line 3; BVAA enhancement water third party contributions	
197	Additional line 4; BVAA enhancement water capex	Please see SRN26- Water Resources - Supply enhancement business case for further details.
198	Additional line 4; BVAA enhancement water opex	Please see SRN26- Water Resources - Supply enhancement business case for further details.
199	Additional line 4; BVAA enhancement water totex	Please see SRN26- Water Resources - Supply enhancement business case for further details.
200	Additional line 4; BVAA enhancement water third party contributions	Please see SRN26- Water Resources - Supply enhancement business case for further details.
201	Additional line 5; BVAA enhancement water capex	See SRN04 Costs and Outcomes approach for details
202	Additional line 5; BVAA enhancement water opex	See SRN04 Costs and Outcomes approach for details
203	Additional line 5; BVAA enhancement water totex	See SRN04 Costs and Outcomes approach for details
204	Additional line 5; BVAA enhancement water third party contributions	See SRN04 Costs and Outcomes approach for details
205	Total other enhancement expenditure; BVA enhancement water capex	**Line calculated from above investment**
206	Total other enhancement expenditure; BVA enhancement water opex	**Line ca[redacted]**

207	Total other enhancement expenditure; BVA enhancement water totex	**Line calculated from above investment**
208	Total other enhancement expenditure; BVA enhancement water third party contributions	**Line calculated from above investment**
	Total enhancement	
209	Total enhancement water expenditure; BVA capex	**Line calculated from above investment**
210	Total enhancement water expenditure; BVA opex	**Line calculated from above investment**
211	Total enhancement water expenditure; BVA totex	**Line calculated from above investment**
212	Total enhancement water expenditure; BVA third party contributions	**Line calculated from above investment**

CW14 - Best value analysis of alternative option (enhancement expenditure) - water resources and water network+		
Line description		**Commentary**
	EA/NRW environmental programme (WINEP/NEP)	
1	Biodiversity and conservation; BVA (WINEP/NEP) water capex	**See enhancement business case SRN33 – WINEP – Supporting Water Abstraction for details.**
2	Biodiversity and conservation; BVA (WINEP/NEP) water opex	
3	Biodiversity and conservation; BVA (WINEP/NEP) water totex	
4	Biodiversity and conservation; BVA (WINEP/NEP) water third party contributions	
5	Eels/fish entrainment screens; BVA (WINEP/NEP) water capex	
6	Eels/fish entrainment screens; BVA (WINEP/NEP) water opex	
7	Eels/fish entrainment screens; BVA (WINEP/NEP) water totex	
8	Eels/fish entrainment screens; BVA (WINEP/NEP) water third party contributions	
9	Eels/fish passes; BVA (WINEP/NEP) water capex	
10	Eels/fish passes; BVA (WINEP/NEP) water opex	
11	Eels/fish passes; BVA (WINEP/NEP) water totex	
12	Eels/fish passes; BVA (WINEP/NEP) water third party contributions	
13	Invasive Non Native Species; BVA (WINEP/NEP) water capex	
14	Invasive Non Native Species; BVA (WINEP/NEP) water opex	
15	Invasive Non Native Species; BVA (WINEP/NEP) water totex	
16	Invasive Non Native Species; BVA (WINEP/NEP) water third party contributions	
17	Drinking Water Protected Areas; BVA (WINEP/NEP) water capex	
18	Drinking Water Protected Areas; BVA (WINEP/NEP) water opex	
19	Drinking Water Protected Areas; BVA (WINEP/NEP) water totex	
20	Drinking Water Protected Areas; BVA (WINEP/NEP) water third party contributions	**See enhancement business case SRN33 – WINEP – Supporting Water Abstraction for details.**
21	Water Framework Directive; BVA (WINEP/NEP) water capex	
22	Water Framework Directive; BVA (WINEP/NEP) water opex	
23	Water Framework Directive; BVA (WINEP/NEP) water totex	

24	Water Framework Directive; BVA (WINEP/NEP) water third party contributions	
25	Wetland creation; BVA (WINEP/NEP) water capex	
26	Wetland creation; BVA (WINEP/NEP) water opex	
27	Wetland creation; BVA (WINEP/NEP) water totex	
28	Wetland creation; BVA (WINEP/NEP) water third party contributions	
29	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water capex	
30	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water opex	
31	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water totex	
32	Trade effluent discharge flow monitoring; BVA (WINEP/NEP) water third party contributions	
33	25 year environment plan; BVA (WINEP/NEP) water capex	
34	25 year environment plan; BVA (WINEP/NEP) water opex	
35	25 year environment plan; BVA (WINEP/NEP) water totex	
36	25 year environment plan; BVA (WINEP/NEP) water third party contributions	
37	Investigations; BVA (WINEP/NEP) - desk based study only water capex	
38	Investigations; BVA (WINEP/NEP) - desk based study only water opex	
39	Investigations; BVA (WINEP/NEP) - desk based study only water totex	**See enhancement business case SRN33 – WINEP – Supporting Water Abstraction for details.**
40	Investigations; BVA (WINEP/NEP) - desk based study only water third-party contributions	
41	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water capex	
42	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water opex	
43	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water totex	
44	Investigations; BVA (WINEP/NEP) - survey, monitoring or simple modelling water third-party contributions	
45	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water capex	
46	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water opex	

47	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water totex	
48	Investigations; BVA (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling water third-party contributions	
49	Investigations total; BVA (WINEP/NEP) water capex	
50	Investigations total; BVA (WINEP/NEP) water opex	
51	Investigations total; BVA (WINEP/NEP) water totex	
52	Investigations total; BVA (WINEP/NEP) water third-party contributions	
53	Total environmental programme expenditure; BVA (WINEP/NEP) water capex	
54	Total environmental programme expenditure; BVA (WINEP/NEP) water opex	
55	Total environmental programme expenditure; BVA (WINEP/NEP) water totex	**See enhancement business case SRN33 – WINEP – Supporting Water Abstraction for details.**
56	Total environmental programme expenditure; BVA (WINEP/NEP) water third party contributions	
	Supply-demand balance	
57	Supply-side improvements delivering benefits in 2025-2030; BVA SDB capex	**See enhancement Business Case SRN26 – Water Resources – Supply**
58	Supply-side improvements delivering benefits in 2025-2030; BVA SDB opex	
59	Supply-side improvements delivering benefits in 2025-2030; BVA SDB totex	
60	Supply-side improvements delivering benefits in 2025-2030; BVA SDB third party contributions	
61	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB capex	**See enhancement Business Case SRN27 – Water Resources – Demand**
62	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB opex	
63	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB totex	
64	Demand-side improvements delivering benefits in 2025-2030 (excl leakage and metering); BVA SDB third party contributions	
65	Leakage improvements delivering benefits in 2025-2030; BVA SDB capex	
66	Leakage improvements delivering benefits in 2025-2030; BVA SDB opex	
67	Leakage improvements delivering benefits in 2025-2030; BVA SDB totex	

68	Leakage improvements delivering benefits in 2025-2030; BVA SDB third party contributions	
69	Internal interconnectors delivering benefits in 2025-2030; BVA SDB capex	**See enhancement Business Case SRN26 – Water Resources – Supply**
70	Internal interconnectors delivering benefits in 2025-2030; BVA SDB opex	
71	Internal interconnectors delivering benefits in 2025-2030; BVA SDB totex	
72	Internal interconnectors delivering benefits in 2025-2030; BVA SDB third party contributions	
73	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB capex	
74	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB opex	
75	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB totex	
76	Supply demand balance improvements delivering benefits starting from 2031; BVA SDB third party contributions	
77	Total supply demand expenditure; BVA SDB capex	
78	Total supply demand expenditure; BVA SDB opex	
79	Total supply demand expenditure; BVA SDB totex	
80	Total supply demand expenditure; BVA SDB third party contributions	
	Metering	
81	New meters requested by existing customers (optants); BVA metering capex	**For details, see enhancement Business Case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model**
82	New meters requested by existing customers (optants); BVA metering opex	
83	New meters requested by existing customers (optants); BVA metering totex	
84	New meters requested by existing customers (optants); BVA metering third party contributions	
85	New meters introduced by companies for existing customers; BVA metering capex	
86	New meters introduced by companies for existing customers; BVA metering opex	
87	New meters introduced by companies for existing customers; BVA metering totex	**For details, see enhancement Business Case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model**
88	New meters introduced by companies for existing customers; BVA metering third party contributions	

89	New meters for existing customers - business; BVA metering capex	
90	New meters for existing customers - business; BVA metering opex	
91	New meters for existing customers - business; BVA metering totex	
92	New meters for existing customers - business; BVA metering third party contributions	
93	Replacement of existing basic meters with AMR meters for residential customers; BVA metering capex	
94	Replacement of existing basic meters with AMR meters for residential customers; BVA metering opex	
95	Replacement of existing basic meters with AMR meters for residential customers; BVA metering totex	
96	Replacement of existing basic meters with AMR meters for residential customers; BVA metering third party contributions	
97	Replacement of existing basic meters with AMI meters for residential customers; BVA metering capex	
98	Replacement of existing basic meters with AMI meters for residential customers; BVA metering opex	
99	Replacement of existing basic meters with AMI meters for residential customers; BVA metering totex	
100	Replacement of existing basic meters with AMI meters for residential customers; BVA metering third party contributions	
101	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering capex	**For details, see enhancement Business Case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model**
102	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering opex	
103	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering totex	
104	Replacement of existing AMR meters with AMI meters for residential customers; BVA metering third party contributions	
105	Replacement of existing basic meters with AMR meters for business customers; BVA metering capex	
106	Replacement of existing basic meters with AMR meters for business customers; BVA metering opex	
107	Replacement of existing basic meters with AMR meters for business customers; BVA metering totex	
108	Replacement of existing basic meters with AMR meters for business customers; BVA metering third party contributions	

109	Replacement of existing basic meters with AMI meters for business customers; BVA metering capex	
110	Replacement of existing basic meters with AMI meters for business customers; BVA metering opex	
111	Replacement of existing basic meters with AMI meters for business customers; BVA metering totex	
112	Replacement of existing basic meters with AMI meters for business customers; BVA metering third party contributions	
113	Replacement of existing AMR meters with AMI meters for business customers; BVA metering capex	
114	Replacement of existing AMR meters with AMI meters for business customers; BVA metering opex	**For details, see enhancement Business Case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model**
115	Replacement of existing AMR meters with AMI meters for business customers; BVA metering totex	
116	Replacement of existing AMR meters with AMI meters for business customers; BVA metering third party contributions	
117	Smart meter infrastructure; BVA metering capex	
118	Smart meter infrastructure; BVA metering opex	
119	Smart meter infrastructure; BVA metering totex	
120	Smart meter infrastructure; BVA metering third party contributions	
121	Total metering expenditure; BVA metering capex	
122	Total metering expenditure; BVA metering opex	
123	Total metering expenditure; BVA metering totex	
124	Total metering expenditure; BVA metering third party contributions	
	Water quality improvements	
125	Improvements to taste, odour and colour (grey solutions); BVA enhancement capex	As per core plan, No taste, odour and colour issues requiring enhancement spend.
126	Improvements to taste, odour and colour (grey solutions); BVA enhancement opex	
127	Improvements to taste, odour and colour (grey solutions); BVA enhancement totex	
128	Improvements to taste, odour and colour (grey solutions); BVA enhancement totex	
129	Improvements to taste, odour and colour (green solutions); BVA enhancement capex	
130	Improvements to taste, odour and colour (green solutions); BVA enhancement opex	

131	Improvements to taste, odour and colour (green solutions); BVA enhancement totex	
132	Improvements to taste, odour and colour (green solutions); BVA enhancement totex	
133	Conditioning water to reduce plumbosolvency; BVA enhancement capex	As per core plan, no plumbsolvency enhancement spend.
134	Conditioning water to reduce plumbosolvency; BVA enhancement opex	
135	Conditioning water to reduce plumbosolvency; BVA enhancement totex	
136	Conditioning water to reduce plumbosolvency; BVA enhancement third party contributions	
137	Lead communication pipes replaced or relined; BVA enhancement capex	As per core plan, see LS3 and enhancement business case SRN31 Lead, for further details
138	Lead communication pipes replaced or relined; BVA enhancement opex	
139	Lead communication pipes replaced or relined; BVA enhancement totex	As per core plan, see LS3 and enhancement business case SRN31 Lead, for further details
140	Lead communication pipes replaced or relined; BVA enhancement third party contributions	
141	External lead supply pipes replaced or relined; BVA enhancement capex	
142	External lead supply pipes replaced or relined; BVA enhancement opex	
143	External lead supply pipes replaced or relined; BVA enhancement totex	
144	External lead supply pipes replaced or relined; BVA enhancement third party contributions	
145	Internal lead supply pipes replaced or relined; BVA enhancement capex	
146	Internal lead supply pipes replaced or relined; BVA enhancement opex	
147	Internal lead supply pipes replaced or relined; BVA enhancement totex	
148	Internal lead supply pipes replaced or relined; BVA enhancement third party contributions	
149	Other lead reduction related activity; BVA enhancement capex	
150	Other lead reduction related activity; BVA enhancement opex	
151	Other lead reduction related activity; BVA enhancement totex	
152	Other lead reduction related activity; BVA enhancement third party contributions	

153	Addressing raw water quality deterioration (grey solutions); BVA enhancement capex	As per core plan, see LS3 and enhancement business case SRN30 Raw Water Deterioration, for further details
154	Addressing raw water quality deterioration (grey solutions); BVA enhancement opex	
155	Addressing raw water quality deterioration (grey solutions); BVA enhancement totex	
156	Addressing raw water quality deterioration (grey solutions); BVA enhancement third party contributions	
157	Addressing raw water quality deterioration (green solutions); BVA enhancement capex	As per core plan, Green solutions such as catchment management are funded through WINEP
158	Addressing raw water quality deterioration (green solutions); BVA enhancement opex	
159	Addressing raw water quality deterioration (green solutions); BVA enhancement totex	
160	Addressing raw water quality deterioration (green solutions); BVA enhancement third party contributions	
161	Total water quality enhancement expenditure; BVA enhancement capex	**Line calculated from above investment**
162	Total water quality enhancement expenditure; BVA enhancement opex	
163	Total water quality enhancement expenditure; BVA enhancement totex	
164	Total water quality enhancement expenditure; BVA enhancement third party contributions	
	Water resilience and security	
165	Resilience; BVA enhancement water capex	As per core plan, see LS3 and enhancement business cases SRN25 Supply Resilience Enhancement Programme, SRN30 Raw Water Deterioration, SRN51 Resilience - Heat and SRN49 Resilience - Power for further details
166	Resilience; BVA enhancement water opex	
167	Resilience; BVA enhancement water totex	
168	Resilience; BVA enhancement water third party contributions	
169	Security - SEMD; BVA enhancement water capex	As per core plan, see LS3 and enhancement business case SRN35 Security and Emergency Measures Direction, for further details
170	Security - SEMD; BVA enhancement water opex	
171	Security - SEMD; BVA enhancement water totex	
172	Security - SEMD; BVA enhancement water third party contributions	
173	Security - cyber; BVA enhancement water capex	As per core plan, see LS3 and enhancement business case SRN34 Network & Information Systems, for further details
174	Security - cyber; BVA enhancement water opex	
175	Security - cyber; BVA enhancement water totex	
176	Security - cyber; BVA enhancement water third party contributions	

177	Total resilience enhancement expenditure; BVA enhancement water capex	**Line calculated from above investment**
178	Total resilience enhancement expenditure; BVA enhancement water opex	
179	Total resilience enhancement expenditure; BVA enhancement water totex	
180	Total resilience enhancement expenditure; BVA enhancement water third party contributions	
	Net zero	
181	Greenhouse gas reduction (net zero); BVA enhancement water capex	**As per core plan, no expenditure against these lines**
182	Greenhouse gas reduction (net zero); BVA enhancement water opex	
183	Greenhouse gas reduction (net zero); BVA enhancement water totex	
184	Greenhouse gas reduction (net zero); BVA enhancement water third party contributions	
	Additional - freeform enhancement lines	
185	Additional line 1; BVAA enhancement water capex	For details see LS3 and enhancement business case SRN24 – Meter replacement and Technical annex SRN17 Direct procurement for Customers and Alternative deliver Model
186	Additional line 1; BVAA enhancement water opex	
187	Additional line 1; BVAA enhancement water totex	
188	Additional line 1; BVAA enhancement water third party contributions	
189	Additional line 2; BVAA enhancement water capex	As per core plan, See LS3 and SRN32 Reservoir Safety Enhancement Business Case, and SRN30 Raw Water Deterioration Enhancement Business Case, for further details.
190	Additional line 2; BVAA enhancement water opex	
191	Additional line 2; BVAA enhancement water totex	
192	Additional line 2; BVAA enhancement water third party contributions	
193	Additional line 3; BVAA enhancement water capex	See SRN27 Water Resources – Demand for details
194	Additional line 3; BVAA enhancement water opex	
195	Additional line 3; BVAA enhancement water totex	
196	Additional line 3; BVAA enhancement water third party contributions	
197	Additional line 4; BVAA enhancement water capex	See LS3 and SRN26- Water Resources - Supply enhancement business case for further details.
198	Additional line 4; BVAA enhancement water opex	
199	Additional line 4; BVAA enhancement water totex	
200	Additional line 4; BVAA enhancement water third party contributions	

201	Additional line 5; BVAA enhancement water capex	**See SRN04 Costs and Outcomes approach for details**
202	Additional line 5; BVAA enhancement water opex	
203	Additional line 5; BVAA enhancement water totex	
204	Additional line 5; BVAA enhancement water third party contributions	
205	Total other enhancement expenditure; BVA enhancement water capex	**Line calculated from above investment**
206	Total other enhancement expenditure; BVA enhancement water opex	**Line calculated from above investment**
207	Total other enhancement expenditure; BVA enhancement water totex	**Line calculated from above investment**
208	Total other enhancement expenditure; BVA enhancement water third party contributions	**Line calculated from above investment**
	Total enhancement	
209	Total enhancement water expenditure; BVA capex	**Line calculated from above investment**
210	Total enhancement water expenditure; BVA opex	**Line calculated from above investment**
211	Total enhancement water expenditure; BVA totex	**Line calculated from above investment**
212	Total enhancement water expenditure; BVA third party contributions	**Line calculated from above investment**

CW15 - Best value analysis (benefits) - water resources and water network+ and CW16 - Best value analysis of alternative option (benefits) - water resources and water network+	
Benefit Type	**Commentary**
Biodiversity	Quantification of year-on-year Biodiversity benefits from WINEP was done through a SWS desktop exercise to quantify the baseline and the biodiversity uplift on SWS's own estate. Profile of Benefits for AMP8 is as per table below, due to the first 2 years • Ofwat has not shared an indicative ODI rate for this PC. • We monetise these benefits at 0.015£m per BDU, in 2022-23 prices. Annual benefits refer to projects started in AMP8 funded through both enhancement allowances (table CW3) and Direct Procurement for Customers (SUP12). Annual benefits are monetised at £15k per BDu in 2022-23 prices. The cost of £15k per Biodiversity Unit is an estimate based on information currently available from open sources. Please see Performance commitments methodologies Technical Annex for detailed methodology and assumptions. Annual benefits are point estimates meaning that uncertainty and sensitivity of benefits are not available. Present value of benefits is calculated using the HMRC's Green Book discount rate of 3.5%.
Demand side improvements	PCC, Business Consumption, leakage: annual benefits measured in water demand reduction. These were estimated as part of the modelling of demand inputs to feed into the WRSE model for WRMP. Annual benefits measured in mains bursts avoided per 1,000 of mains. These were estimated as part of the modelling of demand inputs to feed into the WRSE model for WRMP. Leakage annual benefits related to enhanced mains replacement refer to the benefits from mains replacement above and beyond the mains replacement programme needed to accommodate the leakage's natural rate of rise (which is funded through base costs). The programme of enhancement mains replacement underpinning these benefits is the following:

	AMP8	AMP9	AMP10	AMP11	AMP12	AMP13
Mains replacement enhancement (km)	300	800	1,000	1,000	1,000	1,000

Annual benefits monetised using Ofwat indicative ODI rates for each PC.

Annual benefits refer to projects started in AMP8 funded through both enhancement allowances (table CW3) and Direct Procurement for Customers (SUP12).

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	For details on methodology and assumptions, see Performance commitments methodologies Technical Annex. Annual benefits are monetised using Ofwat's indicative ODI rates, except for operational carbon where we use the UK's Department for Business, Energy and Industrial Strategy's £175 per tonne of CO2e. Source: Updated short-term traded carbon values used for UK public policy appraisal: 2018, (publishing.service.gov.uk). Monetised annual benefits of PCC relate to performance change expressed in l/p/d. Monetised annual benefits of business demand relate to performance change expressed in Ml/d. Monetised annual benefits of leakage relate to performance change expressed in Ml/d. Benefits are point estimates meaning that uncertainty and sensitivity of benefits are not available. Present value of annual benefits is calculated using the HMRC's Green Book discount rate of 3.5%.
Supply side improvements	Forecast annual service levels in the 'do nothing / pre-investment' scenario, i.e. without any interventions. This was done by SWS Asset system team using SWS Pioneer asset deterioration model. Results available in the Source data with link to the original input. Forecast annual service levels in the 'post-investment' scenario. The team identified the list of assets that will be replaced and forecasted the service levels that will result if these assets are replaced like-for-like using SWS Pioneer asset deterioration model. This gives as estimated quantification of the service level with new assets assuming like-for-like asset replacement. Actual benefits are likely to be larger as some assets are being replaced with superior solutions that will deliver greater benefits that the like-for-like replacement. Determine the annual benefits = delta in service levels = service level pre-investment – service level post-investment Benefits materialise in Y5 of each AMP Annual benefits monetised using Ofwat indicative ODI rates foreach PC. Annual benefits refer to projects started in AMP8 funded through both enhancement allowances (table CWW3) and Direct Procurement for Customers (SUP12). For detailed methodology and assumptions, please see Performance commitments methodologies Technical annex. Annual benefits are point estimates meaning that uncertainty and sensitivity of benefits are not available. Present value of annual benefits is calculated using the HMRC's Green Book discount rate of 3.5%.
Mains Repairs	See also above demand side improvements Annual benefits refer to the enhanced mains replacement programme above and beyond the mains replacement programme needed to accommodate the leakage's natural rate of rise (which is funded through base costs) as considered in the WRMP. Annual benefits were estimated as part of the modelling of demand inputs to feed into the WRSE model for WRMP. Annual benefits refer to projects started in AMP8 funded through both enhancement allowances (table CW3) and Direct Procurement for Customers (SUP12).

	Annual benefits are monetised using Ofwat's indicative ODI rate. Annual benefits are point estimates meaning that uncertainty and sensitivity of benefits are not available. Present value of benefits is calculated using the HMRC's Green Book discount rate of 3.5%.
Operational Carbon – water	Annual benefits are in tonnes of CO2e Carbon data quantified by engineering consultants using standard assumptions in the industry. Ofwat has not shared an indicative ODI rate for this PC. We monetise these annual benefits using the UK's Department for Business, Energy and Industrial Strategy's £175 per tonne of CO2e. Source: Updated short-term traded carbon values used for UK public policy appraisal: 2018, (publishing.service.gov.uk) Annual benefits refer to projects started in AMP8 funded through both enhancement allowances (table CWW3) and Direct Procurement for Customers (SUP12). Carbon annual emissions / benefits quantified by engineering consultants using standard assumptions in the industry. Ofwat has not shared an indicative ODI rate for this PC. Benefits are monetised using the UK's Department for Business, Energy and Industrial Strategy's £175 per tonne of CO2e. Source: Updated short-term traded carbon values used for UK public policy appraisal: 2018, (publishing.service.gov.uk). Annual benefits are point estimates meaning that uncertainty and sensitivity of benefits are not available. Present value of benefits is calculated using the HMRC's Green Book discount rate of 3.5%.
Smart Metering	PCC and Business Consumption: annual benefits measured in water demand reduction. These were estimated as part of the modelling of demand inputs to feed into the WRSE model for WRMP. Annual benefits monetised using Ofwat indicative ODI rates for each PC. Annual benefits refer to projects started in AMP8 funded through both enhancement allowances (table CW3) and Direct Procurement for Customers (SUP12). Annual benefits are monetised using Ofwat's indicative ODI rates. Monetised annual benefits of PCC relate to performance change expressed in l/p/d. Monetised annual benefits of business demand relate to performance change expressed in Ml/d. Annual benefits are point estimates meaning that uncertainty and sensitivity of benefits are not available. Present value of benefits is calculated using the HMRC's Green Book discount rate of 3.5%.

CW17 - Accelerated programme expenditure - water resources and water network plus		
Line description		Commentary
	General comment	There is no accelerated expenditure in water resources and water network plus

CW18 - Cost adjustment claims - base expenditure: water resources and water network+		
Line description		Commentary
	Please see cost adjustment claims submitted: Meter Replacement and Regional Labour costs	

CW19 - Demand management - Leakage expenditure and activities		
Line description		**Commentary**
	Leakage expenditure - company level	
1	Maintain expenditure	For leakage opex costs our 24-25 forecast has been rolled forward into AMP8 as a baseline. £144m of our leakage capex costs included within this table are broken down within our Botex technical annex – part B, Treated Water Distribution. £41m of leakage enhancement expenditure is also included within this table, split as below:- £9.8m Find and Fix £1.8m Advanced Pressure Management £10.8m Digitalisation/Smart networks £13.6m Communication pipe replacements £5m Fibre Optic Networks We have also included £198m of mains replacement enhancement activity where we are replacing circa 300km of mains in order to reduce leakage. In splitting costs between maintain and reduce, we have used our usual split for all costs except for the £198m of mains replacements mentioned directly above, all of which we have attributed to reduce expenditure.
2	Reduce expenditure	
3	Total leakage expenditure	
	Leakage expenditure - region 1	
4	Maintain expenditure	Not applicable
5	Reduce expenditure	
6	Total leakage expenditure	
	Leakage expenditure - region 2	
7	Maintain expenditure	Not applicable
8	Reduce expenditure	
9	Total leakage expenditure	
	Leakage expenditure - company level	
10	Mend supply pipe cost	Based on forecast for March 2025
	Leakage expenditure - region 1	
11	Mend supply pipe cost	Not applicable

	Leakage expenditure - region 2	
12	Mend supply pipe cost	Not applicable
	Prevent activities and attributes - company level	
13	Number of properties covered by PMAs with fixed outlet pressure control	Flat phase as all new PMA's likely to be under active pressure control.
14	Number of properties covered by PMAs with active pressure control	Increase for Year 4 ,then flat in Year 5 and 3% increase pa in Y1-Y3 of AMP8 and flat for Y4&5. Not included those with change to booster control.
15	Number of new PMAs	Increase by 35 in Year 4, flat in 5 and 3% increase pa in Y1-Y3 of AMP8 and flat for Y4&5. Not included those with change to booster control.
16	Number of properties covered by new PMAs	Increase for Year 4, flat in Year 5 and then 3% pa increase in Y1-Y3 of AMP8 and flat for Y4&5
	Prevent activities and attributes - region 1 & 2	No separate regional activity – company level only
	DMA characteristics - company level	
25	Number of fully operating DMAs	Increase on 2022/23 by 5% in Year 4 and 10% in Year 5 then increase by 1% per annum in AMP8. Combination of attack on DMA Operability this AMP and then new DMA's due to growth and sub-division of existing DMA's to improve targeting efficiency in AMP8.
26	25th percentile DMA size	Use same ratio as existing data
27	Mean DMA size	
28	75th percentile DMA size	
29	DMA Availability	Small annual improvement for AMP7, flat for AMP8.
	DMA characteristics - region 1 & 2	No separate regional activity – company level only
	Trunk main balances - company level	
40	Length of trunk mains and upstream network in trunk mains balances	Plan to undertake work on TM flow balances so should see this increase by 10% in Y5 of AMP7 and 50% across AMP8.
41	Length of trunk mains	Likely to reduce given drive to get more Trunk Main Areas into DMA's – suggest 3 TMA's to DMA's per annum – say reduction of 6km (2km per TMA) per annum
42	Proportion of trunk mains and upstream network in trunk mains balances.	Calculation based on CW19.40 and CW19.41
	Trunk main balances - region 1 & 2	No separate regional activity – company level only
	Smart networks - company level	
49	Smart networks coverage - permanent acoustic/noise loggers	Planned increase in investment in acoustic loggers – so increase of 7,500 to 10,500 this AMP and 5% year on year after this.
	Smart networks - region 1 & 2	No separate regional activity – company level only

	Active leakage control - company level	
52	Hours on ALC activity per annum	This is part of our Leakage recovery plan - increase in 2023/24 to 185 FTE (current level) on leak detection from Leakage partner. This will be reduced in Q4 to 150 and likely to remain stable thereafter so reduction of 18.9% on 23/24 value as forward plan.
	Active leakage control - region 1 & 2	No separate regional activity – company level only
	Mains repairs - company level	
55	Number of mains repairs – customer reported	Data taken from OUT4
56	Number of mains repairs – company detected	Data taken from OUT4
57	Average run time for customer reported mains repairs	Already overall decent performance – small improvement in Year 4 and 5 of AMP7 of 2% per annum. Additional technology and systems likely to improve AMP8 performance and reduce run time by 5% year on year.
58	Average run time for company detected mains repairs.	Already overall decent performance – small improvement in Year 4 and 5 of AMP7 of 2% per annum. Additional technology and systems likely to improve AMP8 performance and reduce run time by 5% year on year.
	Mains repairs - region 1 & 2	No separate regional activity – company level only
	Mains fittings repairs - company level	
67	Number of mains fittings repairs – customer reported	No change to plan for AMP7/AMP8
68	Number of mains fittings repairs – company detected.	
69	Average run time for customer reported mains fittings repairs	No change in run time for AMP7 / AMP8 – use 22/23 data. Any process improvements offset by tougher Streetworks regulations.
70	Average run time for company detected mains fittings repairs	
	Mains fittings repairs - region 1 & 2	No separate regional activity – company level only
	Communication pipe repairs - company level	
79	Number of communication pipe repairs – customer reported	No change in AMP7 but increase volume of repairs by 1% (Y1), 2%(Y2), 5%(Y3), 10%(Y4), 5% (Y5) in AMP8 in line with Smart metering programme phased roll-out. Customers more aware.
80	Number of communication pipe repairs – company detected	No change in AMP7 but increase volume of repairs by 1% (Y1), 2%(Y2), 5%(Y3), 10%(Y4), 5% (Y5) in AMP8 in line with Smart metering programme phased roll-out. Leakage partner using data to improve detection. AMP8 comm pipe renewal policy will take a number of AMP's to wash through with leakage benefits, will mainly be customer repeat benefit.
81	Average run time for customer reported communication pipe repairs	No change in AMP7 but reduce run time by 1% (Y1), 2%(Y2), 5%(Y3), 10%(Y4), 5% (Y5) in AMP8 in line with Smart metering programme phased roll-out. Customers more aware.
82	Average run time for company detected communication pipe repairs	No change in AMP7 but reduce run time by 1% (Y1), 2%(Y2), 5%(Y3), 10%(Y4), 5% (Y5) in AMP8 in line with Smart metering programme phased roll-out. Leakage partner using data to improve detection.
	Communication pipe repairs - region 1 & 2	No separate regional activity – company level only

	Supply pipes repairs - company level	
91	Number of supply pipe repairs – customer reported	No change to plan for AMP7.
92	Number of supply pipe repairs – company detected	Drive with Leakage partner to increase CSL detection activity. Increase on 2022/23 of 5% for Years 4 and 5. Flat phase after this.
93	Average run time for customer reported supply pipe repairs	No change in AMP7 but reduce run time by 1% (Y1), 2%(Y2), 5%(Y3), 10%(Y4), 5% (Y5) in AMP8 in line with Smart metering programme phased roll-out.
94	Average run time for company detected supply pipe repairs	No change in AMP7 but reduce run time by 1% (Y1), 2%(Y2), 5%(Y3), 10%(Y4), 5% (Y5) in AMP8 in line with Smart metering programme phased roll-out.
95	Number of free supply pipe repairs undertaken	No change to plan in AMP7. Free repair policy not planned to change in AMP8. Likely to see an increase of 5% per annum in vulnerable customer status/volumes year on year.
96	Number of supply pipe repairs where financial assistance provided	None
97	Number of supply pipe repairs where other support provided	Being Calculated as x% on the baseline
	Supply pipes repairs - region 1 & 2	No separate regional activity – company level only
	Leakage levels - company level	
112	Historical minimum achieved level of leakage	This is the "bottom-up" pre-MLE leakage for each year. This has been calculated based on the figures in CW5, reducing by 4.8% based on the MLE gap for 2021/22 and 2022/23
113	Volume of leakage that needs to be saved to maintain current level	As per the RPS report provided to Ofwat in 2021/22, NRR was 120.11. Natural Rate of Rise is increased 2.2 Ml/d per annum and therefore this is built into future planning
	Leakage levels - region 1 & 2	No separate regional activity – company level only

CW20 - Water mains; asset condition		
Line description		**Commentary**
	Length of potable mains by Condition Grade	
1	Potable mains (up to 320mm)	Split by diameter group – total length of master data per grade, length of mains not in cohort analysis assumed grade 1. The total length of mains reported is from the Pioneer dataset as at last extract from the corporate GIS system at April 2022. This length of total mains will not align to APR values and so the confidence grade for CW20.1 & 20.2 data is C4.
2	Potable mains (greater than 320mm)	
	Analysed burst rate comparison	
3	Analysed cohort potable mains (up to 320mm)	SWS Cohorts created as per guidance using Material (Primary variable), Age1 (Primary variable), Age2 (Secondary variable), Diameter1 (Primary variable), Diameter2 (Secondary variable), Shrink Swell (Secondary variable), DMA groupings (Secondary variable). Shrink Swell Secondary variable used as this is included in the SWS water main deterioration model lengths by grade by diameter per cohort analysis. Lengths by grade by diameter per cohort analysis
4	Annual average bursts from cohort analysis (5 year average) potable mains (up to 320mm)	SWS Cohorts created as per guidance using Material (Primary variable), Age1 (Primary variable), Age2 (Secondary variable), Diameter1 (Primary variable), Diameter2 (Secondary variable), Shrink Swell (Secondary variable), DMA groupings (Secondary variable). Shrink Swell Secondary variable used as this is included in the SWS water main deterioration model lengths by grade by diameter per cohort analysis. Lengths by grade by diameter per cohort analysis
5	Annual average bursts on analysed cohorts potable mains (up to 320mm)	N/A – Calculated line
6	Replaced and/or relined mains length	Last 5 years replaced mains as per APR reporting
7	Annual average bursts on replaced potable mains (5 year average) up to 320mm	Last year of actuals for cohort analysis by grade number of bursts
8	Annual average bursts (5 year average) on potable mains up to 320mm	N/A
9	Current annual bursts on potable mains (up to 320mm)	Calculated from total Annual bursts number / 000km
10	Current annual bursts on potable mains (up to 320mm)	Balancing value of bursts being the difference between matched cohort analysis bursts and RCF reported number of bursts.
11	Annual bursts on mains (5 year average) greater than 320mm and other mains	5 year average of bursts on mains greater than 320mm and other mains – taken from the balance of the APR 5 year average minus the Annual average bursts from cohort analysis (5 year average)
12	Annual bursts on mains (5 year average) on potable and other mains reported in APR 2019-2023	5 year a[redacted]

Ofwat guidance to assure cohort via spatial mapping of distance between bursts not undertaken as capability not available.

There is a discrepancy between the number of bursts in our spatially mapped data and our historic APR data. This discrepancy is c10% and is due to historic APR data not being linked to assets, which is required in order to complete this analysis. We therefore had to use our spatially mapped data.

GIS Age data is limited with only 25% of year laid data populated. An exercise of infilling this age data by overlaying historic maps was undertaken in 2012. This age data resides in the Pioneer system as age is a key attribute utilised in the Pioneer deterioration models for water main bursts. Therefore the overall quality of the data is currently low.

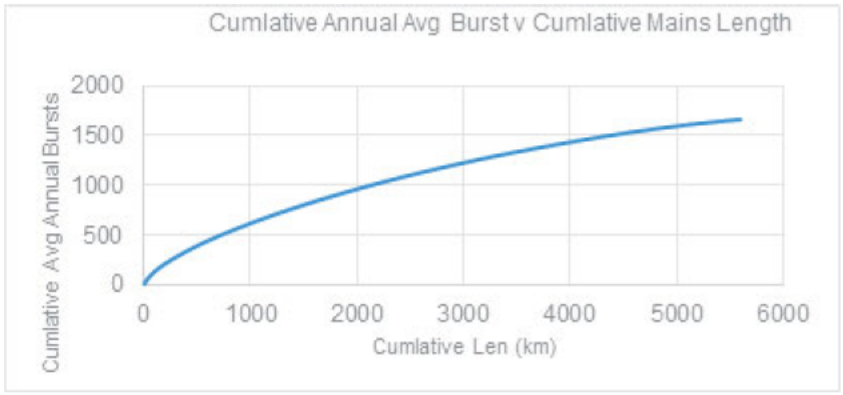
Over the reporting period Southern Water has not carried out any relining work.

SWS Cohorts created as per guidance using Material (Primary variable), Age1 (Primary variable), Age2 (Secondary variable), Diameter1 (Primary variable), Diameter2 (Secondary variable), Shrink Swell (Secondary variable), DMA groupings (Secondary variable).

Shrink Swell Secondary variable used as this is included in the SWS water main deterioration model. Details of this classification is as follows:-

1	very low	Hard rock, gravel, or sandy or coarse loamy soil
2	low	Heavy loam textures
3	moderate	Clayey overlying non-swelling slay, shale or marl
4	high	Clayey overlying swelling or lake clay
5	very high	Clayey overlying brownish swelling clay
6	high*	Alluvial clay or peat with very high shrink-swell potential that is realised with drainage to > 2m

Each cohort is within the guidance tolerance of 2.5 bursts per year +-50% for diameter of <320mm and 1.0 bursts per year for diameter >320mm. Overall average yearly bursts is 2.47 which is +/- 10% of the 2.5 nominal size as per the Ofwat guidance.
Cohorts ranked and cumulative length and bursts graph produced as per guidance. Our worst performing cohort (highest burst rate) is fibre reinforced cement (1940 to 1960). The cohort with the most bursts over five years is cast iron 1920 to 1940 (<320mm dia).


Cumlative Annual Avg Burst v Cumlative Mains Length
Cumlative Avg Annual Bursts
2000
1500
1000
500
0
0
1000
2000
3000
4000
5000
6000
Cumlative Len (km)

CW21 - Water - net zero enhancement schemes	
Line description	**Commentary**
	Not applicable to Southern – no schemes to report