SSC04d

PR24 Data tables commentary – Water resources

Contents

1. RES1

Line number	Commentary
RES1.1; RES1.2; RES1.3; RES1.4; RES1.5; RES1.6; RES1.7; RES1.8	These lines are calculated by multiplying the proportion of water from each source type in lines CW5.8 to CW5.15 by the annual total distribution input in CW5.38, for each year. Note that due to the significant size of the Severn Trent export from Hampton Loade, this average volume is added on to the Hampton Loade volume in line RES1.2, as this export is not included in the distribution input figure. We have assumed an average of 41.67 Ml/d which is the average of the previous three years from 2020/21 to 2022/23.
RES1.9	We have one impounding reservoir and this will not change over the AMP8 period.
RES1.10	We have one pumped storage reservoir and this will not change over the AMP8 period.
RES1.11	We have one river abstraction and this will not change over the AMP8 period.
RES1.12	We currently have 43 operational groundwater sites and as per line CW5.17 we have included additions for Duxford Airfield/Sawston Mill, St Ives, Croydon and Kingston in the year that they are due to become operational.
RES1.13; RES1.14; RES1.15; RES1.16	As per lines CW5.12 to CW5.15, we do not operate any of these classifications of site so all of these lines are zero.
RES1.17	This is an automatic total of the lines above.
RES1.18	This is a manual total of the number of reservoirs we have, of which there are two as per lines RES1.9 and RES1.10 above.
RES1.19	The volumetric capacity of our impounding reservoirs will not be changing, hence we have forecast the APR23 static value forward.
RES1.20	As in our annual APR, this is the same value as the total row in line RES1.17.
RES1.21	As explained for line RES1.12 above, we are introducing new sources in Cambridge in this current period which will have pumping plant installed. The design for these sites is currently underway but we expect this to add approximately 39kW to the total resources pumping plant capacity value, which has been added to the forecast in the year the site becomes operational.
RES1.22	We have no plans for material changes to the length of raw water abstraction mains, so this value is forecast static at the 2022/23 level.
RES1.23	APH is an operationally variable number, as it varies depending on which sites are used, their supply volumes, and network conditions. Whilst we have no plans to materially change the asset configurations of our sources or network, we have considered the following factors for water resources APH: • Our starting baseline was the three year average of data from 2020/21 to 2022/23. For water resources, the 2022/23 value was an outlier, as it was impacted by a non-typical shift in the proportion of Hampton Loade utilised, as a result of the major capital construction being delivered at Seedy Mill in the year. We took an average of the 2020/21 and 2021/22 years as the starting point of the future forecast. • We considered the impact of the additional groundwater sites we are introducing in Cambridge (Croydon, St Ives, and Kingston). As these sites are relatively small, all under 2 Ml/d, and as we are already accounting for the impact of DI reduction (see below), there is no noticeable impact from these additional three sites, which would still be pumping into the same network and broadly to the same network pressures as the rest of the supply sites. • Over the period to 2030, DI is forecast to reduce by 7.5% overall, as we reduce leakage and customer demand. This would not all pass through into APH, because there is not a 1:1 relationship between groundwater levels and change in abstraction (i.e borehole levels would not linearly raise to ground level as abstraction is reduced, as they are also constrained by the level of the wider water table). We have examined groundwater levels at a range of sites to estimate what the impact of this DI reduction could be, and we have estimated a 20% impact factor from DI reduction. We apply this impact factor to the DI reduction percentage, so for example a 7.5% reduction in DI by 2030 would result in a 1.5% reduction to water resources APH. The data is complex and

	impacted by other operational factors such as site outage, so this is an estimate, but we discussed the rationale with our technical auditors who were in agreement with the approach and the resulting estimate. Note also that DI is not reducing in CAM, which has more growth, so the 7.5% reduction is an average across both regions. These factors mean that the water resources APH forecast reduces slightly over the period. We consider this a reasonable assumption given that DI should also reduce, but that the asset utilisation mix doesn't materially change.
RES1.24	We have followed the same approach for all of the energy consumption forecasts. We have taken the average energy use for 2021/22 and 2022/23, and reduced this proportional to the change in DI over the future years. This is to ensure we take account of leakage and demand reduction, as per our DI forecast, in energy use as well. We would not expect the relationship to be exactly 1:1, due to operational variability and the impact of static power consumption, for example offices. However these are reasonably small component compared to the cost of pumping and treatment which would be expected to track a reducing DI forecast. Overall power consumption is forecast to fall by 7.2% by 2029/30. Note that this forecast reduction in power use is also mapped across to both our costs and carbon emissions forecasts. Note that we have previously communicated an issue to Ofwat on treatment of exports in carbon emissions and the same applies to these power lines. We have included a separate note on these issues alongside the commentary for carbon emissions in the performance commitment table OUT4.
RES1.25; RES1.26; RES1.27; RES1.28	As in our previous APRs, we have no imports or exports from raw water abstraction, so these lines are all zero.
RES1.29	This is the WRMP derived value of water resources yield.
RES1.30	We have one impounding reservoir site (Blithfield) and so this value does not change in the forecast years.
RES1.31; RES1.32; RES1.33; RES1.34; RES1.35; RES1.36; RES1.37; RES1.38	These lines are aligned to the schemes/improvements proposed in our WINEP.
RES1.39; RES1.40; RES1.41	We do not have any additional water resources cost drivers to propose.