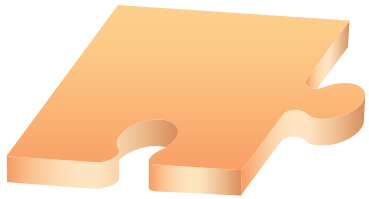


Section 6 : Supply Demand Balance

In this section we explain our baseline predictions for Water Available for Use and demand for water from 2015 to 2040

Introduction

6.1 Our best estimates of WAFU (Section 3), demand forecast (Section 4) and target headroom (Section 5) result in deficits in the baseline supply demand balance as shown in Table 6.1.

6.2 Where the calculation shows a positive supply demand balance, this indicates an overall surplus of water to meet customer demand in line with our agreed levels of service, although there might still be deficits at the zonal level which need to be addressed. Where the supply demand balance is shown as negative, this indicates a deficit in water and that additional resources, and/or demand management measures to reduce demand, are required to ensure sufficient water can be supplied to our customers.

Comparisons with WRMP09

6.3 Table 6.1 includes a comparison of the baseline supply demand forecast for WRMP14 with WRMP09. Taking account of lower WAFU, lower demand forecast and minor changes to target headroom that are included in the WRMP14, compared to WRMP09, the resulting supply demand balance is broadly similar through to the middle part of the planning period. Towards the end of the plan the supply demand deficit in the WRMP14 is lower than WRMP09.

6.4 As discussed in Section 5, we have included an allowance for uncertainty, target headroom and at 2015 this is approximately 14 Ml/d, increasing to 59 Ml/d by 2040 on average. For the Summer Peak period target headroom is 16 Ml/d in 2015 rising to 76 Ml/d by 2040.

Table 6.1 The baseline supply demand balance (figures in red are deficits)

	Dry Year Annual Average (Ml/d)				Summer Peak Period (Ml/d)			
	2015	2020	2030	2040	2015	2020	2030	2040
Deployable Output	622.7	612.7	600.9	597.7	727.2	718.3	708.0	705.9
Bulk Supplies	56.4	56.4	56.4	56.4	57.3	57.3	57.3	57.3
Process Losses	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Outage	27.4	27.4	27.4	27.4	36.7	36.7	36.7	36.7
Total (WAFU)	**639.3**	**629.3**	**617.5**	**614.4**	**735.5**	**726.6**	**716.3**	**714.2**
Demand	574.4	572.2	582.0	604.1	697.5	701.4	730.7	775.8
Target Headroom	13.7	26.8	42.1	58.9	15.9	33.4	54.7	75.7
Demand + Headroom	**588.1**	**599.0**	**624.1**	**663.0**	**713.4**	**734.7**	**785.4**	**851.4**
Supply Demand Balance	**51.2**	**30.3**	**-6.6**	**-48.7**	**22.1**	**-8.2**	**-69.1**	**-137.3**
WRMP09 Supply Demand Balance	48.2	23.5	-28.4		21.3	-15.2	-96.9	
Change	3.0	6.8	21.8		0.8	7.0	27.8	

6.5 Overall the WRMP14 identifies a greater level of supply demand deficit in the baseline plan during the early years of the planning period, due mainly to the changes to WAFU, and in later years slightly lower supply demand deficit due to a flatter demand forecast.

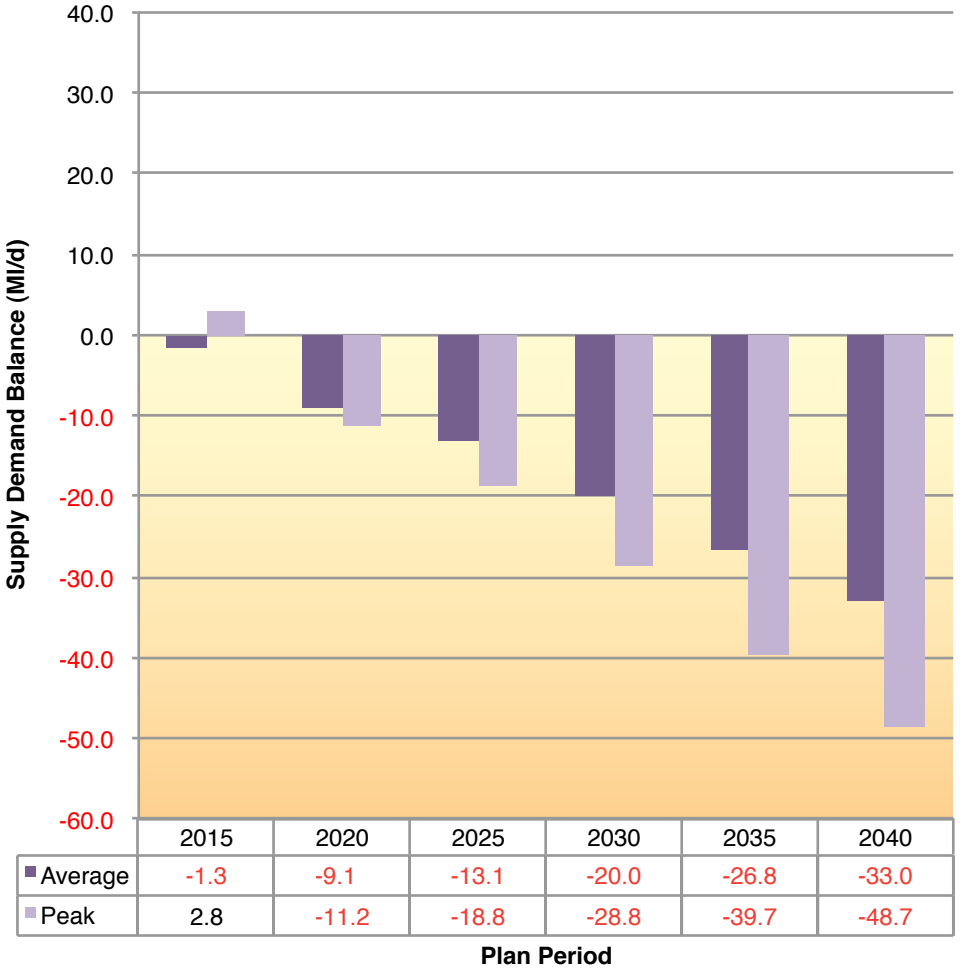
6.6 Figures 6.1, 6.2 and 6.3 display the WRZ baseline supply demand balances from which it is clear that some zones are in deficit from the start of the period. Most of these deficits can be satisfied through the use of existing transfers between the zones, but this is not possible for all the zones. Certainly additional source developments will be required in the first 5 year period to meet the peak deficits, which have appeared in almost all the zones.

6.7 To produce a robust final plan we need to be clear how we deal with risk and uncertainty in our supply demand balance, and then balance that risk against affordability and best value. The key issues for our supply area have been identified to be:

- A growing population;
- Constrained environment with high quality landscape and international nature conservation designations;
- Area defined as in "serious water stress";
- Sustainability reductions;
- Availability of additional new water is limited; and
- Uncertainty in relation to climate change.

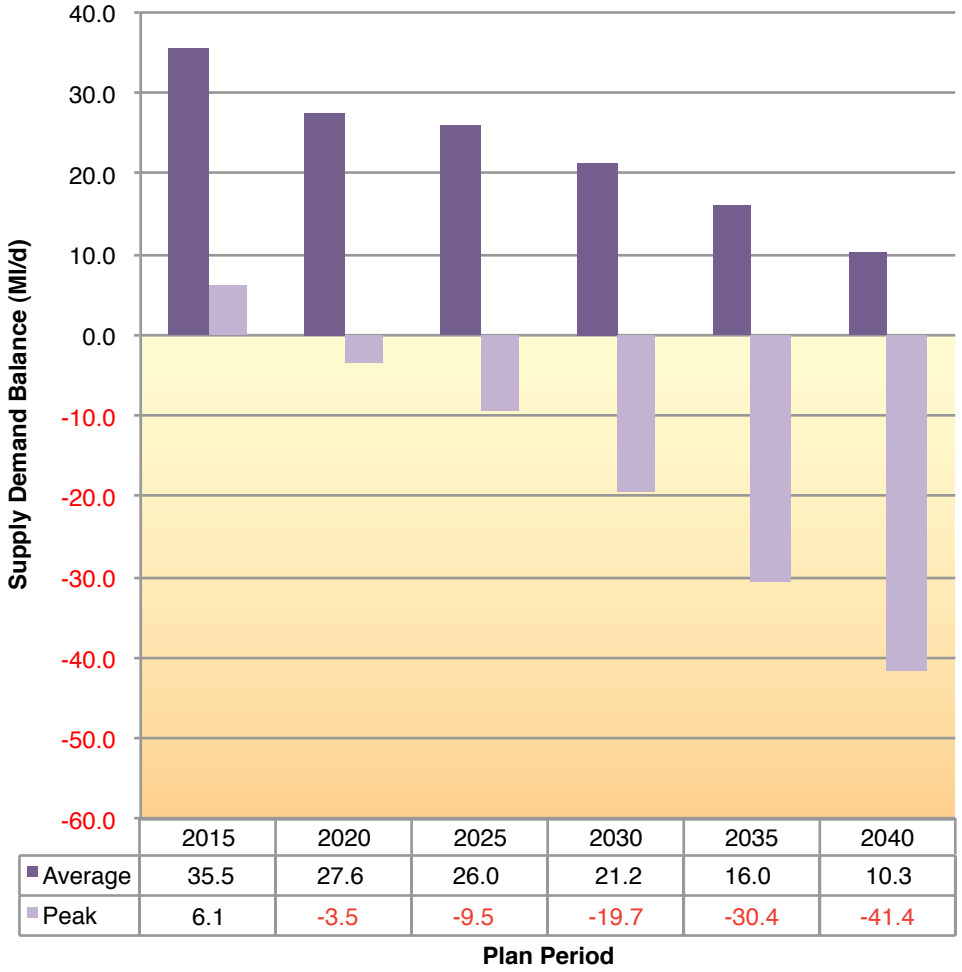
6.8 The approach and the process to develop a preferred plan to meet these deficits, and take account of these issues, are described in the next sections of this report.

Figure 6.1: Baseline supply demand balance WRZs 1-3



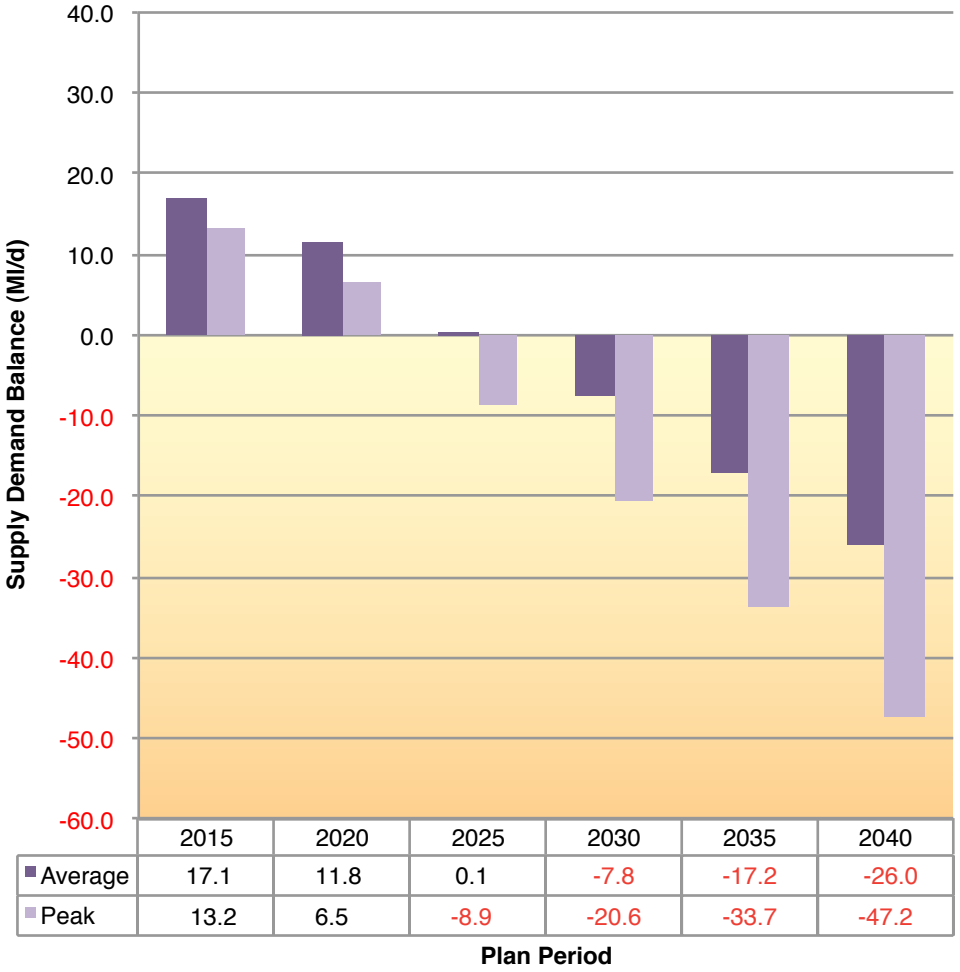
	2015	2020	2025	2030	2035	2040
Average	-1.3	-9.1	-13.1	-20.0	-26.8	-33.0
Peak	2.8	-11.2	-18.8	-28.8	-39.7	-48.7

Figure 6.2: Baseline supply demand balance WRZs 4-5



	2015	2020	2025	2030	2035	2040
Average	35.5	27.6	26.0	21.2	16.0	10.3
Peak	6.1	-3.5	-9.5	-19.7	-30.4	-41.4

Figure 6.3: Baseline supply demand balance WRZs 6-8



	2015	2020	2025	2030	2035	2040
Average	17.1	11.8	0.1	-7.8	-17.2	-26.0
Peak	13.2	6.5	-8.9	-20.6	-33.7	-47.2