

Water requirements for Scenario 4: Matimba power station (FBC), Medupi power station (FGD)
Peaks Indicated
Unit: million m³/annum or million m³/month

USER	Delivery Area	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
		Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
ESKOM INDUSTRIAL DEMAND																								
Matimba Power Station	Industrial Eskom Lephalale	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600
Medupi Power Station (with FGD)	Industrial Eskom Lephalale	0.876	0.719	0.713	1.775	2.930	5.085	9.400	13.492	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
Future Eskom Power Station 3 (CF-2 with FGD)	Industrial Eskom Steenbokpan					0.431	0.719	0.713	3.513	8.041	13.066	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000
Future Eskom Power Station 4 (CF-3 with FGD)	Industrial Eskom Steenbokpan										0.431	0.719	0.713	3.513	8.041	13.066	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000
Future Eskom Power Station 5 (CF-4 with FGD)	Industrial Eskom Steenbokpan													0.431	0.719	0.713	3.513	8.041	13.066	15.000	15.000	15.000	15.000	15.000
Sub-Total (Eskom)		4.476	4.319	4.313	5.3748	6.9606	9.404	13.714	20.605	25.641	31.097	33.319	33.313	36.544	41.360	46.379	51.113	55.641	60.666	62.600	62.600	62.600	62.600	62.600
Peak factor		1.000	1.000	1.000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Sub-Total Peaks Included (Eskom)		4.476	4.319	4.313	5.3748	6.9606	9.404	13.714	20.605	25.641	31.097	33.319	33.313	36.544	41.360	46.379	51.113	55.641	60.666	62.600	62.600	62.600	62.600	62.600
COAL MINES INDUSTRIAL DEMAND																								
Exxaro																								
Mining activities near Lephalale	Industrial Exxaro Lephalale	2.785	3.053	3.414	4.239	5.413	6.914	8.845	14.451	20.480	21.611	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816
Mining activities near Steenbokpan	Industrial Exxaro Steenbokpan					0.045	0.137	0.262	1.290	2.055	2.867	3.322	4.200	4.890	5.430	5.460	5.845	6.120	6.120	6.120	6.120	6.120	6.120	6.120
Mine for Eskom Power Station 3	Industrial other mines				1.100	2.300	2.800	2.800	4.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
Mine for Eskom Power Station 4	Industrial other mines									1.100	2.300	2.300	2.800	2.800	4.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
Mine for Eskom Power Station 5	Industrial other mines												1.100	2.300	2.800	2.800	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
Sub-Total (Coal Mines)		2.785	3.053	3.414	5.3390	7.7580	9.851	11.907	19.741	28.635	31.778	32.438	34.916	36.806	39.046	40.076	42.661	42.936	42.936	42.936	42.936	42.936	42.936	42.936
SASOL INDUSTRIAL DEMAND																								
Construction	Industrial Sasol																							
CTL Facility (Mafutha 1 + Mafutha 2)	Industrial Sasol																							
Coal mining and beneficiation	Industrial Sasol																							
Sub-Total (Sasol)																								
MUNICIPAL DEMAND																								
Current households (including Marapong)	Municipal demand Lephalale	3.127	3.215	3.175	3.111	3.046	2.978	2.910	2.839	2.767	2.692	2.617	2.604	2.630	2.657	2.683	2.710	2.737	2.765	2.793	2.821	2.849	2.877	2.906
Industrial/Commercial/Educational Development																								
At Lephalale	Municipal demand Lephalale	0.769	1.033	1.136	1.404	1.689	1.650	1.827	2.185	2.087	2.071	2.074	2.095	2.116	2.137	2.159	2.180	2.202	2.224	2.247	2.269	2.292	2.315	2.338
At Steenbokpan	Municipal demand Steenbokpan					0.092	0.649	0.892	0.965	1.030	1.480	1.647	1.653	1.614	1.776	1.972	2.062	1.985	1.892	0.473	0.474	0.475	0.476	0.478
Power stations																								
Medupi	Municipal demand Lephalale				0.334	0.521	0.509	0.497	0.485	0.473	0.460	0.447	0.445	0.449	0.454	0.459	0.463	0.468	0.472	0.477	0.482	0.487	0.492	0.497
Power station 3	Municipal demand Steenbokpan						0.636	0.988	1.129	1.375	1.328	1.289	1.283	1.296	1.309	1.322	1.336	1.349	1.362	1.376	1.390	1.404	1.418	1.432
Power station 4	Municipal demand Steenbokpan										0.552	0.853	0.841	1.100	1.207	1.270	1.283	1.296	1.309	1.322	1.336	1.349	1.362	1.376
Power station 5	Municipal demand Steenbokpan														0.526	0.841	1.100	1.256	1.259	1.270	1.283	1.296	1.309	1.322
Mining (Exxaro) (incl on mine potable)	Municipal demand Lephalale	0.341	0.789	1.216	1.799	2.692	2.828	3.683	5.581	5.847	5.893	5.905	6.007	6.098	6.161	6.223	6.285	6.348	6.412	6.476	6.541	6.607	6.673	6.740
Mining (Exxaro) (Steenbokpan)	Municipal demand Steenbokpan					0.277	1.350	1.394	1.347	1.541	2.425	2.410	2.374	2.376	2.395	2.419	2.443	2.442	2.376	2.395	2.419	2.443	2.468	2.493
Temporary Construction Workers																								
At Lephalale	Municipal demand Lephalale	0.633	1.339	1.343	1.609	1.715	1.316	1.227	0.833	0.209	0.064													
At Steenbokpan	Municipal demand Steenbokpan					0.124	0.771	1.290	1.362	1.035	1.167	1.310	1.297	0.888	0.791	1.062	1.068	0.616	0.327					
Mafutha Town (Sasol) at Steenbokpan	Municipal demand Steenbokpan																							
Mafutha 1&2 (Plant Potable)	Municipal demand Steenbokpan																							
Sub-Total (Municipal)		4.870	6.375	6.870	8.258	10.156	12.686	14.707	16.726	16.363	18.132	18.553	18.599	18.568	19.411	20.409	20.931	20.699	20.398	18.829	19.015	19.202	19.391	19.582
Peak factor		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Sub-Total Peaks Included (Municipal)		4.870	6.375	6.870	8.258	10.156	12.686	14.707	16.726	16.363	18.132	18.553	18.599	18.568	19.411	20.409	20.931	20.699	20.398	18.829	19.015	19.202	19.391	19.582
Total Demand Excluding Irrigation (+Peaks)		12.131	13.747	14.597	18.972	24.875	31.941	40.328	57.072	70.639	81.007	84.310	86.829	91.918	99.818	106.865	114.705	119.276	124.000	124.365	124.551	124.738	124.927	125.118
Irrigation allocation		10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400	10.400
TOTAL: SCENARIO 4		22.531	24.147	24.997	29.372	35.275	42.341	50.728	67.472	81.039	91.407	94.710	97.229	102.318	110.218	117.265	125.105	129.676	134.400	134.765	134.951	135.138	135.327	135.518
Water available from Mokolo Dam		39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100	39.100
Potential return flow (50%)		2.435	3.188	3.435	4.129	5.016	5.958	6.708	7.682	7.664	8.482	8.622	8.651	8.840	9.310	9.674	9.931	10.042	10.035	9.415	9.507	9.601	9.696	9.791
Water to be transferred from Crocodile River (West)							3.302	11.733	20.771	34.345	43.896	46.986	49.476	54.467	61.866	68.539	76.134	80.576	85.302	86.251	86.343	86.437	86.532	86.627
Demands used for URV calculation							9.260	18.442	28.453	42.009	52.378	55.608	58.127	63.307	71.177	78.212	86.065	90.618	95.337	95.665	95.851	96.038	96.227	96.418

Lephalale/Steenbokpan Split (Delivery through pipe)	Delivery Area	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
		Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Lephalale Demand Centre	Municipal demand Lephalale	4.870	6.375	6.870	8.258	9.664	9.281	10.143	11.923	11.383	11.180	11.043	11.151	11.294	11.408	11.523	11.639	11.755	11.873	11.993	12.113	12.235	12.357	12.481
	Industrial Exxaro Lephalale	2.785	3.053	3.414	4.239	5.413	6.914	8.845	14.451	20.480	21.611	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816
	Industrial Eskom Lephalale	4.476	4.319	4.313	5.375	6.530	8.685	13.000	17.092	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600
Sub-total		12.131	13.747	14.597	17.872	21.606	24.880	31.988	43.466	49.463	50.391	50.459	50.567	50.710	50.824	50.939	51.055	51.171	51.289	51.409	51.529	51.651	51.773	51.897
Steenbokpan Demand Centre	Municipal demand Steenbokpan					0.493	3.405	4.564	4.803	4.980	6.952	7.510	7.448	7.274	8.003	8.886	9.292	8.944	8.525	6.837	6.902	6.967	7.034	7.101
	Industrial Exxaro Steenbokpan					0.045	0.137	0.262	1.290	2.055	2.867	3.322	4.200	4.890	5.430	5.460	5.845	6.120	6.120	6.120	6.120	6.120	6.120	6.120
	Industrial Sasol																							
	Industrial Eskom Steenbokpan					0.431	0.719	0.713	3.513	8.041	13.497	15.719	15.713	18.944	23.760	28.779	33.513	38.041	43.066	45.000	45.000	45.000	45.000	45.000
	Industrial other mines				1.100	2.300	2.800	2.800	4.000	6.100	7.300	7.300	8.900	10.100	11.800	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000
Sub-total					1.100	3.269	7.062	8.339	13.606	21.176	30.616	33.851	36.262	41.208	48.993	55.926	63.651	68.105	72.710	72.957	73.022	73.087	73.154	73.221
Total		12.131	13.747	14.597	18.972	24.875	31.941	40.328	57.072	70.639	81.007	84.310	86.829	91.918	99.818	106.865	114.705	119.276	124.000	124.365	124.551	124.738	124.927	125.118

Water requirements for Scenario 8: Scenario 4 + SASOL
Peaks Indicated
Unit: million m³/annum or million m³/month

Lephalale/Steenbokpan Split (Delivery through pipe)	Delivery Area	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
		Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Lephalale Demand Centre	Municipal demand Lephalale	4.870	6.375	6.870	8.258	9.664	9.281	10.143	11.923	11.383	11.180	11.043	11.151	11.294	11.408	11.523	11.639	11.755	11.873	11.993	12.113	12.235	12.357	12.481
	Industrial Exxaro Lephalale	2.785	3.053	3.414	4.239	5.413	6.914	8.845	14.451	20.480	21.611	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816	21.816
	Industrial Eskom Lephalale	4.476	4.319	4.313	5.375	6.530	8.685	13.000	17.092	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600	17.600
Sub-total		12.131	13.747	14.597	17.872	21.606	24.880	31.988	43.466	49.463	50.391	50.459	50.567	50.710	50.824	50.939	51.055	51.171	51.289	51.409	51.529	51.651	51.773	51.897
Steenbokpan Demand Centre	Municipal demand Steenbokpan				0.030	0.893	6.593	8.889	12.940	15.824	16.207	17.282	23.252	27.185	27.542	27.188	27.667	27.463	27.190	27.238	27.347	27.455	27.690	27.928
	Industrial Exxaro Steenbokpan					0.045	0.137	0.262	1.290	2.055	2.867	3.322	4.200	4.890	5.430	5.460	5.845	6.120	6.120	6.120	6.120	6.120	6.120	6.120
	Industrial Sasol				1.250	2.750	4.500	5.750	8.000	28.500	38.250	39.250	43.500	44.000	45.000	65.750	74.000	74.000	74.000	74.000	74.000	74.000	74.000	74.000
	Industrial Eskom Steenbokpan					0.431	0.719	0.713	3.513	8.041	13.497	15.719	15.713	18.944	23.760	28.779	33.513	38.041	43.066	45.000	45.000	45.000	45.000	45.000
	Industrial other mines				1.100	2.300	2.800	2.800	4.000	6.100	7.300	7.300	8.900	10.100	11.800	12.900	15.000	15.000	15.000	15.000	15.000	15.000	15.000	15.000
Sub-total					2.380	6.419	14.749	18.414	29.743	60.520	78.121	82.873	95.565	105.119	113.532	139.977	156.026	160.624	165.375	167.358	167.467	167.575	167.810	168.048
Total		12.131	13.747	14.597	20.252	28.025	39.629	50.402	73.209	109.983	128.512	133.332	146.132	155.829	164.357	190.916	207.080	211.796	216.665	218.767	218.996	219.225	219.584	219.945

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