

Statistics and Planning Data

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Table 1

General Information SAPP - Year 98/99

Country	Utility	Installed Capacity	Maximum Demand Last SAPP Year	MD Growth Last SAPP Year	Sales last SAPP Year	Sales growth last SAPP Year	Number of Customers	Number of Employees	Generation	Net Imports	System losses	Revenue	Debtor Days	Rate of Return	Net Income
		MW	MW	%	GWh	%			GWh	GWh	%	USD million	Days	%	USD million
Angola	ENE	598.1	209	11	1009		79 556	2896	1315	2.5	10	5.8			
Botswana	BPC	132	256.4	7.43	1478.7	8.02	67 397	1 670	900.9	742.5	7.89	65.58	43.9	7.78	19.4
Lesotho	LEC														
Malawi	ESCOM	243.11	190.2	5.73	802	5.6	71 990	2218	1035	0.003	17.01	25.1	68		
Mozambique	EdM	213.2	235	12	885.4	16.5	186 208	2799	243	347.5	15	67.535	113	12.5	2.124
Namibia	NamPower	393	292	-10.5	1812	-1.03	2 219	789	1271	610	12.3	108.124	34	5.13	35.347
South Africa	ESKOM	37848	27803	-1.86	171454	-0.6	2 564 000	37311	183093	-1464	6.36	3512	33	2.49	-105
Swaziland	SEB	50	145	4.3	695	3.4	3 3316	728	194	606	15.1	33	52		5.957
Tanzania	TANESCO	591.1	367.52	8	1823	18.55	37 1233	7012	2103	45	25	180.247	85	5.23	25.586
DRC	SNEL	2360	993	3	3312	-14	-	5497	4519	55 (404)	3	-	-	-	-
Zambia	ZESCO	1632	1126	2	6430	3	170924	4097	7852	725	3.5	178	200	3.1	16.8
Zimbabwe	ZESA	1960	1950	5	10162	-2	437 523	7128	6863	4549	10.96		35		

Table 2

Annual Maximum Demand (MW)

Country	Utility	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Angola	ENE	209	326	586	586	586	586	846	846	846	846	846	846	846
Botswana	BPC	266	280	300	313	330	343	356	369	387	407	423	441	464
Lesotho	LEC	89	77	83	85	89	98	103	107	112	115	118	124	132
Malawi	ESCOM	190.2	185	189	195	206	217	228	241	253	265	279	293	308
Mozambique	EdM	259	257	279	296	313	330	345	360	371	383	394	407	420
Namibia	NamPower	292	314	338	443	453	464	494	575	611	683	723	807	1005
South Africa	ESKOM	27191	28156	28802	29747	30234	30977	31720	32542	33431	34305	35194	35988	36878
Swaziland	SEB	145	853	891	927	972	1017	1065	1113	1160	1202	1245	1290	1336
Tanzania	TANESCO	426	487	548	643	742	796	848	895	944	995	1048	1105	1162
DRC	SNEL		841	895	929	961	994	1027	1063	1100	1138			
Zambia	ZESCO	1100	1148	1178	1244	1313	1386	1463	1545	1596	1650	1705	1762	1821
Zimbabwe	ZESA	1950	2089	2175	2265	2357	2454	2555	2660	2770	2884	3002	3126	3254
TOTAL		32117	35013	36264	37673	38556	39662	41050	42316	43581	44873	44977	46189	47626

Table 3

Annual Energy Sent Out (GWh)

Country	Utility	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Angola	ENE	1319	1516	1660	1840	2025	2225	2438	2675	2870	3090	3320	3665	3820
Botswana	BPC	800	1750	1843	1914	2004	2071	2139	2212	2305	2396	2482	2573	2696
Lesotho	LEC	293	278	302	308	316	352	366	376	384	394	411	430	456
Malawi	ESCOM	1023	1087	1151	1213	1284	1353	1425	1501	1576	1654	1736	1823	1914
Mozambique	EdM	1542	1399	1522	1614	1704	1792	1871	1952	2011	2071	2135	2201	2270
Namibia	NamPower	1881	1676	1731	2431	2491	2606	2684	2752	2877	2965	3044	3179	3278
South Africa	ESKOM	170413	176456	180505	186430	189481	194136	198796	203949	209518	214997	220566	225541	231108
Swaziland	SEB	289	145	152	158	166	173	181	190	189	205	212	220	228
Tanzania	TANESCO	2416	2727	3642	3498	3983	4291	4584	4851	5129	5419	5723	6032	6368
DRC	SNEL													
Zambia	ZESCO	7344	7440	7640	8064	8511	8984	9482	10013	10349	10696	11055	11429	11816
Zimbabwe	ZESA	11529	12811	13338	13886	14456	15050	15669	16314	16985	17683	18410	19166	19954
TOTAL		198849	207285	213486	221356	226421	233033	239635	246785	254193	261570	269094	276259	283908

Table 4

NEW GENERATING PLANT

Year	Country	Power Station	Number of Units	Units Size (MW)	Total Added (MW)	Cost US\$ million	Type T/H
1996	South Africa	Majuba 1	1	612	612	430	T
1996	South Africa	Arnot 3 Recommission	1	330	330		T
1997	South Africa	Majuba 2	1	612	612	430	T
1997	South Africa	Arnot 4 Recommission	1	330	330		T
2000	Tanzania	Ubungu	1	34	34	18	T
1998	Tanzania	IPTL	10	10	100	150	T
1998	Lesotho	Muela	3	24	72		H
1998	South Africa	Majuba 3	1	612	612	430	T
1998	South Africa	Arnot 5 Recommission	1	330	330	237	H
2000	Tanzania	Kihansi	3	60	180	237	H
1999	South Africa	Majuba 4	1	670	670	430	T
1999	South Africa	Arnot 6 Recommission	1	330	330		T
1999	Malawi	Kaphichira Phase 1	2	32	64	129	H
2000	Angola	Capanda	2	130	260		H
2000	South Africa	Majuba 5	1	670	670	430	T
2001	Zimbabwe	Hwange Upgrade	1	84	84	130	T
2001	Zimbabwe	Hwange 7	1	330	330	271	T
2001	South Africa	Majuba 6	1	670	670	430	T
2001	Zambia	Itezhi-Tezhi	1	80	80	63	H
2002	Zambia	Kafue Lower	1	200	200	520	H
2002	Tanzania	Da-es-Salaam	1	50	50	24	T
2002	Malawi	Kaphichira Phase 2	2	32	64	38	H
2002	Namibia	Kudu	1	750	750		T
2003	Zimbabwe	Hwange 8	1	330	330	271	T
2003	Zambia	Kafue Lower	2	200	400		H
2003	Malawi	Lower Fufu	1	45	45	59	H
2003	Mozambique	Mepanda Uncua	5	400	2 000	1 500	H
2004	Angola	Capanda	4	130	260		H
2004	Tanzania	Rumakali	4	51	204	405	H
2004	Malawi	Lower Fungu	1	45	45	59	H
2005	Namibia	Kudu	1	750	750		T
2004	Zimbabwe	Gokwe North	3	350	1050	771	T
2006	Zimbabwe	Gokwe North	1	350	350	257	T
2006	Tanzania	Mpanga	1	40	160	300	H
2007	South Africa	Camden 1 and 2	2	190	380		T
2008	South Africa	Camden 3 and 4	2	190	380		T
2008	Zimbabwe	Batoka	1	200	200	275	H
2009	South Africa	Camden 5 and 6	2	190	380		T
2010	South Africa	Camden 7 and 8	2	190	380		T
2010	South Africa	Grootvlei 1 and 2	2	190	380		T
2010	Zimbabwe	Batoka	1	200	200	275	H
2011	Zimbabwe	Batoka	1	200	200	275	H
2012	Zimbabwe	Batoka	1	200	200	275	H
2013	Zimbabwe	Kariba South Extension	1	150	150	100	H
2014	Zimbabwe	Kariba South Extension	1	150	150	100	H

Table 5

New International Transmission Lines

Year	Country from	Country to	Substation from	Substation to	Voltage (kV)	Route length (km)	Transfer Power (MW)
1998	Mozambique	South Africa	Songo	Apollo	533 DC	1420	2000
1999	South Africa	Mozambique	Amot	Maputo	400	220	900
1999	South Africa	Swaziland	Camden	Edwaleni 2	400	100	900
1999	South Africa	Namibia	Ries	Kokerboom	400	420	650
1999	Swaziland	Mozambique	Edwaleni 2	Maputo	400	120	900
2001	Zambia	DRC	Luano	Karavia	200	144	375
2002	Mozambique	Malawi	Matambo	Blantyre West	220	200	300
2001	Zambia	Tanzania	Pensulo	Mbeya	330	650	200

Table 6
INTERNAL TRANSMISSION STRENGTHENING

Year	Country	Substation from	Substation to	Voltage (kV)	Length (km)	Thermal Rating (MVA)	Cost US \$ million
1995	Swaziland	Magwabayi	Manzini	132	3	43	
1995	Swaziland	Manzini	Thompson	132	7	43	
1997	Lesotho	Mazenod	Mohale	132	60	92	3
1997	Malawi	Chintheche	Chikangawa	132	72	72	3
1997	South Africa	Bighorn	Spitskop	400	90	110	10
1997	Tanzania	Kihansi	Kidatu	220	181	200	12
1999	Botswana	Segoditshane	Thamanga	220	40	200	
1998	Lesotho	Maputsoe	Muela	132	60	180	5
1998	Lesotho	Mazenod	Mafeteng	132	55	92	4
1998	South Africa	Spencer	Witkop	2x275	125	470	12
1999	Swaziland	Lozitha (turn ins)	Mnkinkomo	132	10	85	500
1999	Swaziland	Mnkinkomo	Lozitha (turn ins)	132	10	85	500
1999	Swaziland	Mnkinkomo	Lusekwane	132	10	85	500
1999	Swaziland	Lusekwane	Helehele	132	20	85	1000
1999	Swaziland	Mnkinkomo	Helehele	132	20	85	1000
1999	Swaziland	Helehele	Kalanga	132	55	85	2750
1999	Botswana	Thamaga	Juaneng	132	85	90	
1998	Botswana	Segoditshane	Airport	132	8	90	
1999	South Africa	Bighorn	Phoebus	400	75	1100	10
1999	South Africa	Pelly	Phoebus	2x275	1	470	0.2
1999	Tanzania	Kihansi	Iringa	220	97	200	7
1999	Tanzania	Singida	Arusha	220	313	200	38
2000	South Africa	Bighorn	Trident	2x275	5	470	
2000	South Africa	Everest	Merapi	275	110	470	9
2000	Namibia	Kokerboom	Auas	400	470	1750	55
2000	Namibia	Kokerboom	Skorpion	400	265	1750	50
2001	Namibia	Van Eck	EPZ	220	350	364	22
2003	Namibia	Skorpion	Kudu	400	65	1750	49
2001	Malawi	Nkula 'B'	Lilongwe 'B'	132	250	106	5
2002	Malawi	Bwengu	Chikangawa	132	120	72	7
2002	Zimbabwe	Gokwe North	Chakari	400	198	1750	
2003	Malawi	Chikangawa	Lilongwe	132	273	84	18
2003	Mozambique	Mepanda Uncua	Maputo	533DC	1500	2000	350
2003	South Africa	Arnot	Mozambique	2x400	10	1100	58
2003	South Africa	Marathon	Praire	2x275	5	470	
2004	South Africa	Phoebus	Vulcan	400	110	1100	14
2004	Malawi	Bwengu	Chikangawa	132	120	84M	8
2004	Malawi	Lower Fufu	Bwengu	132	45	106	6
2004	South Africa	Spencer	Tabor	2x275	65	470	5
2004	South Africa	Bighorn	Phoebus	2x400	1	1100	
2004	Zimbabwe	Gokwe North	Sherwood	400	225	1750	
2004	Zimbabwe	Chakari	Dema	400	148	1750	
2005	South Africa	Foskor	Spencer	275	110	470	
2005	Botswana	Segoditshane	Morupule	220	275	200	
2006	South Africa	Beta	Bloemindustria	2x400	95	1100	28
2007	Namibia	Aus	EPZ	220	375	364	24

Table 7

Electricity Tariffs – February 1999
Business General (Low Voltage)

Monthly Consumption kWh		450	900	2500	5000
BPC	US\$/kWh	0.066	0.062	0.059	0.058
EDM	US\$/kWh	0.085	0.088	0.100	0.100
ENE	US\$/kWh	0.000	0.000	0.000	0.000
ESCOM	US\$/kWh	0.041	0.039	0.038	0.037
Eskom	US\$/kWh	0.074	0.056	0.043	0.038
LEC	US\$/kWh	0.076	0.072	0.069	0.069
NamPower	US\$/kWh	0.043	0.037	0.034	0.032
SEB	US\$/kWh	0.097	0.082	0.073	0.070
Snel	US\$/kWh	0.000	0.000	0.000	0.000
TanESCO	US\$/kWh	0.055	0.090	0.116	0.180
ZESA	US\$/kWh	0.040	0.033	0.029	0.026
Zesco	US\$/kWh	0.051	0.042	0.036	0.035

Source: Sad – Elec, May 1999.