

Weekly System Status Report – 2024 Week 4 (22/01/2024 – 28/01/2024)

Introduction

This document is intended to provide a general picture of the Adequacy of the National Electricity Supply System in the medium term. The Report will be updated weekly, on Tuesdays and circulated Wednesdays, thereafter, published on the Eskom website, updated on Wednesdays. The values contained in this report are unverified and not official yet and can change at any time.

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Historic Daily Peak System Capacity/Demand

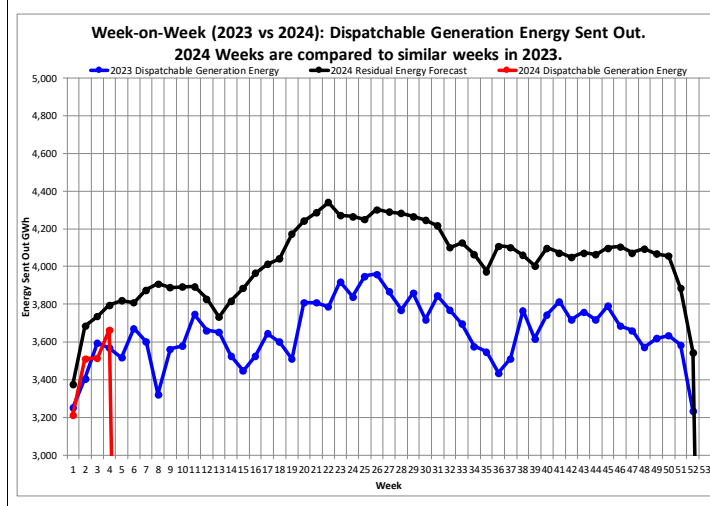
Date	Available Dispatchable Generation (MW)	Non-commercial Generation (MW)	Residual Load Forecast (MW)	Actual Residual Demand (MW) Incl IOS	Operating Reserve Margin (Excl Non-Commercial Units)	Operating Reserve Margin (Incl Non-Commercial Units)	Forecast vs. Actual (Residual Demand)
Mon 22/Jan/2024	27,497	532	25,930	25,737	6.8%	8.9%	0.7%
Tue 23/Jan/2024	27,664	530	25,894	25,614	8.0%	10.1%	1.1%
Wed 24/Jan/2024	28,208	0	26,435	25,671	9.9%	9.9%	3.0%
Thu 25/Jan/2024	28,352	712	26,611	26,380	7.5%	10.2%	0.9%
Fri 26/Jan/2024	28,190	705	25,247	25,833	9.1%	11.9%	-2.3%
Sat 27/Jan/2024	26,843	675	24,928	24,455	9.8%	12.5%	1.9%
Sun 28/Jan/2024	25,669	682	25,005	24,742	3.7%	6.5%	1.1%
Date	Total Available Generation Incl Renewables (MW)	Non-commercial Generation (MW)	RSA Contracted Load Forecast (MW)	Actual RSA Contracted Demand (MW) Incl IOS	Operating Reserve Margin (Excl Non-Commercial Units)	Operating Reserve Margin (Incl Non-Commercial Units)	Forecast vs. Actual (RSA Contracted Demand)
Mon 22/Jan/2024	30,032	532	28,308	28,272	6.2%	8.1%	0.1%
Tue 23/Jan/2024	30,631	530	28,045	28,581	7.2%	9.0%	-1.9%
Wed 24/Jan/2024	30,736	0	28,606	28,199	9.0%	9.0%	1.4%
Thu 25/Jan/2024	30,180	712	28,541	28,208	7.0%	9.5%	1.2%
Fri 26/Jan/2024	28,850	696	26,743	27,032	6.7%	9.3%	-1.1%
Sat 27/Jan/2024	28,886	675	26,437	26,498	9.0%	11.6%	-0.2%
Sun 28/Jan/2024	27,606	682	26,765	26,680	3.5%	6.0%	0.3%

Notes:

1. Available Dispatchable Generation means **all generation resources** that can be dispatched by Eskom and includes capacity available from all emergency generation resources.
2. RSA Contracted Load Forecast is the total official day-ahead hourly forecast. Residual Load Forecast excludes the expected generation from renewables.
3. Actual Residual Demand is the aggregated metered hourly sent-out generation and imports from dispatchable resources and includes demand reductions. The Actual RSA Contracted Demand includes renewable generation.
4. Net Maximum Dispatchable Capacity (including imports and emergency generation resources) = 49 191 MW.
5. These figures do not include any demand side products.
6. The peak hours for the residual demand can differ from that of the RSA contracted demand, depending on renewable generation.

Week-on-Week Dispatchable Generation Energy Sent Out

[2023 weeks compared to similar 2022 weeks]



Week 4 : Dispatchable Generation Energy Sent Out Statistics		
Energy Sent Out	3,665	GWh
Week-on-Week Growth	2.67	%
Year-on-Year Growth (Year-to-Date) Annual	0.58	%

Note:

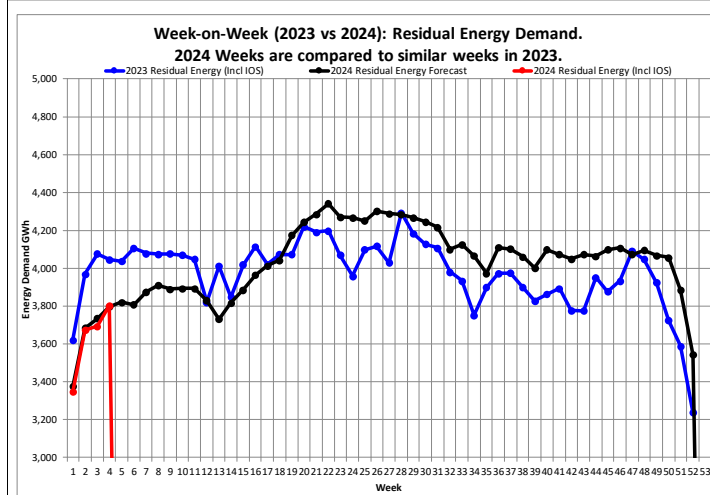
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Dispatchable Generation Energy Sent Out Statistics			
Year	01 Jan to 28 Jan Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	16,301	219,575	GWh
2020	16,111	206,725	GWh
2021	15,385	210,022	GWh
2022	15,506	202,845	GWh
2023	13,785	190,433	GWh
2024 (YTD)	13,902		GWh

Week-on-Week Residual Energy Demand

[2023 weeks compared to similar 2022 weeks]



Week 4 : Residual Energy Demand Statistics		
Energy Demand	3,802	GWh
Week-on-Week Growth	-6.05	%
Year-on-Year Growth (Year-to-Date) Annual	-7.63	%

Note:

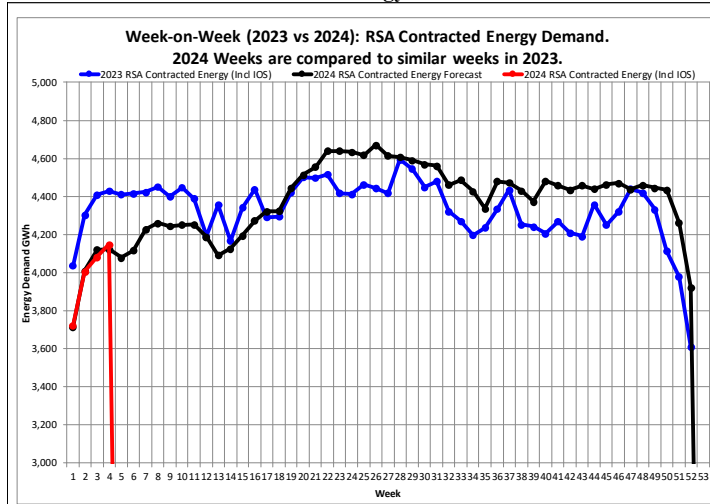
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Residual Energy Demand Statistics			
Year	01 Jan to 28 Jan Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	16,317	220,937	GWh
2020	16,230	208,151	GWh
2021	15,550	211,958	GWh
2022	15,517	211,132	GWh
2023	15,655	207,189	GWh
2024 (YTD)	14,517		GWh

Week-on-Week RSA Contracted Energy Demand

[2023 weeks compared to similar 2022 weeks]



Week 4 : RSA Contracted Energy Demand Statistics		
Energy Demand	4,147	GWh
Week-on-Week Growth	-6.36	%
Year-on-Year Growth (Year-to-Date) Annual	-7.09	%

Note:

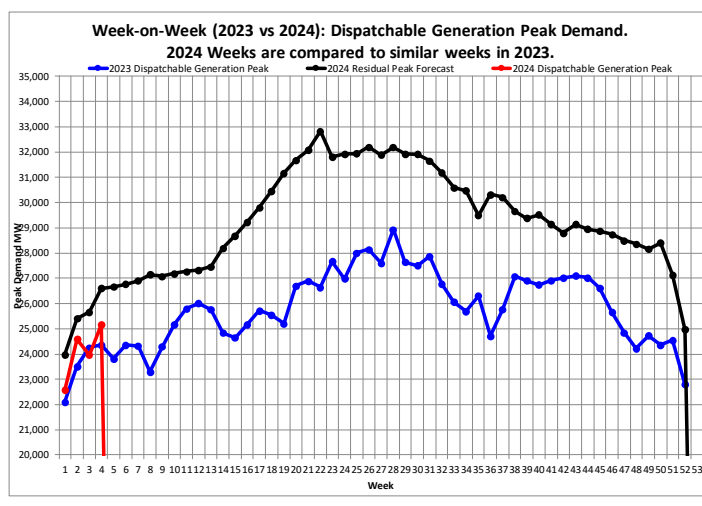
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual RSA Contracted Energy Demand Statistics			
Year	01 Jan to 28 Jan Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	17,382	232,524	GWh
2020	17,218	220,630	GWh
2021	16,713	227,166	GWh
2022	16,797	227,335	GWh
2023	17,100	225,874	GWh
2024 (YTD)	15,960		GWh

Week-on-Week Dispatchable Generation Peak Demand

[2023 weeks compared to similar 2022 weeks]



Week 4 : Dispatchable Generation Peak Demand Statistics			
Peak Demand	25,167	MW	
Week-on-Week Growth	3.31	%	
Year-on-Year Growth (Year-to-Date) Annual	3.31	%	

Note:

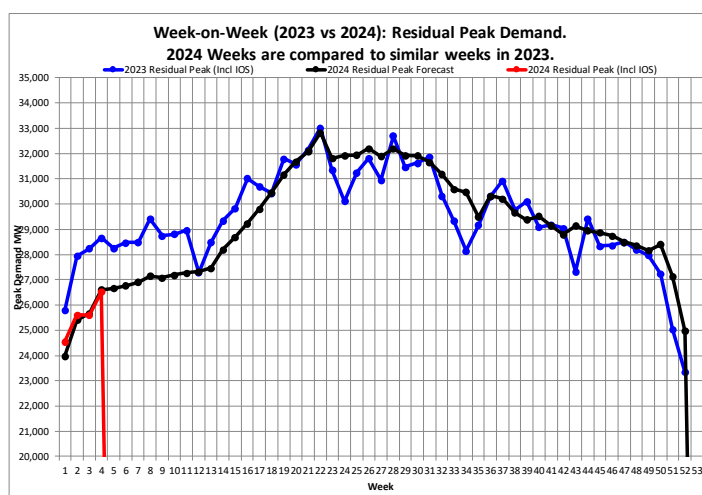
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Dispatchable Generation Peak Demand Statistics			
Year	Peak Date	Annual Peak	Unit
2019	Thu 30-May-2019	33,066	MW
2020	Wed 17-Jun-2020	32,384	MW
2021	Thu 15-Jul-2021	32,292	MW
2022	Thu 02-Jun-2022	31,756	MW
2023	Mon 10-Jul-2023	28,937	MW
2024 (YTD)	Fri 26-Jan-2024	25,167	MW

Week-on-Week Residual Peak Demand

[2023 weeks compared to similar 2022 weeks]



Week 4 : Residual Peak Demand Statistics			
Peak Demand	26,530	MW	
Week-on-Week Growth	-7.44	%	
Year-on-Year Growth (Year-to-Date) Annual	-7.44	%	

Note:

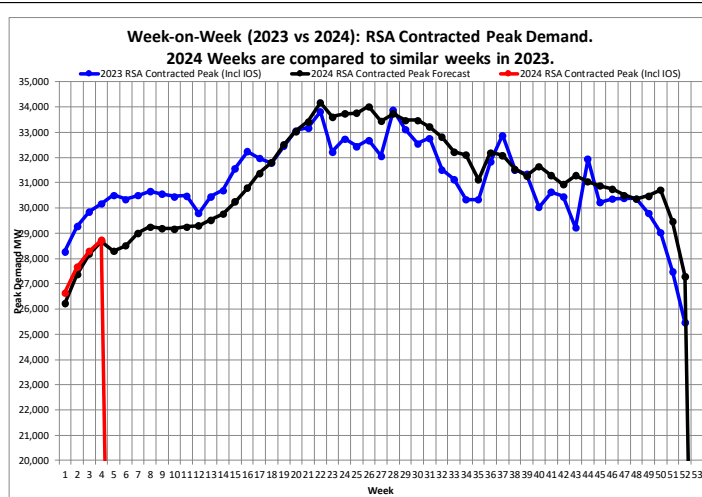
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Residual Peak Demand Statistics			
Year	Peak Date	Annual Peak	Unit
2019	Thu 30-May-2019	33,746	MW
2020	Wed 15-Jul-2020	32,756	MW
2021	Tue 08-Jun-2021	34,029	MW
2022	Thu 23-Jun-2022	33,136	MW
2023	Tue 30-May-2023	33,016	MW
2024 (YTD)	Thu 25-Jan-2024	26,530	MW

Week-on-Week RSA Contracted Peak Demand

[2023 weeks compared to similar 2022 weeks]



Week 4 : RSA Contracted Peak Demand Statistics			
Peak Demand	28,732	MW	
Week-on-Week Growth	-4.77	%	
Year-on-Year Growth (Year-to-Date) Annual	-4.77	%	

Note:

2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual RSA Contracted Peak Demand Statistics			
Year	Peak Date	Annual Peak	Unit
2019	Thu 30-May-2019	34,510	MW
2020	Tue 01-Sep-2020	34,155	MW
2021	Thu 22-Jul-2021	35,005	MW
2022	Thu 23-Jun-2022	34,666	MW
2023	Mon 10-Jul-2023	33,873	MW
2024 (YTD)	Tue 23-Jan-2024	28,732	MW

Weekly Generation Availability

	Week														Annual (Jan - Dec)	
	43	44	45	46	47	48	49	50	51	52	1	2	3	4	2024	2023
Energy Availability Factor (Eskom EAF)	56.15	54.46	55.13	53.51	54.96	54.57	55.07	54.72	54.66	49.52	48.96	51.76	52.12	53.18	51.46	54.68
Planned Outage Factor	10.53	8.91	10.27	10.87	11.42	13.76	14.53	17.89	17.29	19.05	18.88	17.27	17.97	16.73	17.57	10.90
Unplanned Outage Factor	32.02	35.47	33.03	33.78	31.90	30.08	28.79	26.16	26.91	30.39	30.90	29.71	28.49	29.00	29.73	33.09
Other Outage Factor	1.30	1.16	1.57	1.84	1.72	1.59	1.61	1.23	1.14	1.04	1.26	1.26	1.42	1.09	1.24	1.33

EAF: Ratio of the available energy generation over a given time period to the maximum amount of energy which could be produced over the same time period.

Outage Factors: Ratio of energy losses over a given time period to the maximum amount of energy which could be produced over the same time period.

YTD: Year-to-Date (01 January of current year to current week)

52 Week Outlook

This is the forecast demand vs. available generating capacity for each week for 52 weeks ahead. Colour codes ranging from Green (no shortage) to Red (worst case) are used to indicate the absence or presence of a capacity constraint.

Week Start	Week	RSA Contracted Forecast	MW Residual Forecast	MW Available Dispatchable Capacity	MW Available Capacity (Less OR and UA)	MW Planned Maintenance	MW Unplanned Outage Assumption (UA)	MW Planned Risk Level (-18200 MW)	MW Likely Risk Scenario (-20200 MW)
29-Jan-24	5	28205	26657	40790	22590	8401	16000		
05-Feb-24	6	28517	26771	41105	22905	8086	16000		
12-Feb-24	7	29012	26901	41280	23080	7911	16000		
19-Feb-24	8	29268	27157	41900	23700	7291	16000		
26-Feb-24	9	29190	27079	40785	22585	8406	16000		
04-Mar-24	10	29177	27197	42004	23804	7187	16000		
11-Mar-24	11	29260	27280	42307	24107	6884	16000		
18-Mar-24	12	29302	27323	42069	23869	7122	16000		
25-Mar-24	13	29535	27467	42269	24069	6922	16000		
01-Apr-24	14	29771	28201	43805	25605	5386	16000		
08-Apr-24	15	30254	28684	44468	26268	4723	16000		
15-Apr-24	16	30806	29236	45456	27256	3733	16000		
22-Apr-24	17	31380	29810	46366	28166	2823	16000		
29-Apr-24	18	31808	30457	45648	27448	3543	16000		
06-May-24	19	32516	31166	45648	27448	3543	16000		
13-May-24	20	33041	31690	45648	27448	3543	16000		
20-May-24	21	33431	32081	46241	28041	2950	16000		
27-May-24	22	34180	32830	46716	28516	2475	16000		
03-Jun-24	23	33622	31802	46366	28166	2825	16000		
10-Jun-24	24	33746	31927	47086	28886	2105	16000		
17-Jun-24	25	33765	31945	46996	28796	2195	16000		
24-Jun-24	26	34023	32204	47086	28886	2105	16000		
01-Jul-24	27	33440	31884	47661	29461	1530	16000		
08-Jul-24	28	33738	32182	47661	29461	1530	16000		
15-Jul-24	29	33487	31932	46941	28741	2250	16000		
22-Jul-24	30	33477	31921	47297	29097	1894	16000		
29-Jul-24	31	33217	31661	46522	28322	2669	16000		
05-Aug-24	32	32815	31183	45487	27287	3704	16000		
12-Aug-24	33	32235	30602	45017	26817	4174	16000		
19-Aug-24	34	32102	30469	44239	26039	4952	16000		
26-Aug-24	35	31122	29489	44137	25937	5054	16000		
02-Sep-24	36	32206	30318	44862	26662	4329	16000		
09-Sep-24	37	32100	30213	44414	26214	4777	16000		
16-Sep-24	38	31551	29663	43679	25479	5512	16000		
23-Sep-24	39	31272	29384	43436	25236	5755	16000		
30-Sep-24	40	31663	29516	43332	25132	5859	16000		
07-Oct-24	41	31291	29143	43729	25529	5462	16000		
14-Oct-24	42	30935	28796	43464	25264	5727	16000		
21-Oct-24	43	31288	29140	43464	25264	5727	16000		
28-Oct-24	44	31043	28945	44239	26039	4952	16000		
04-Nov-24	45	30877	28868	44049	25849	5142	16000		
11-Nov-24	46	30756	28747	43909	25709	5282	16000		
18-Nov-24	47	30513	28504	43559	25359	5632	16000		
25-Nov-24	48	30369	28360	42404	24204	6787	16000		
02-Dec-24	49	30491	28165	42444	24244	6747	16000		
09-Dec-24	50	30725	28398	42444	24244	6747	16000		
16-Dec-24	51	29472	27145	40388	22188	8803	16000		
23-Dec-24	52	27305	24979	37857	19657	11334	16000		
30-Dec-24	1	26934	24770	39162	20962	10029	16000		
06-Jan-25	2	29254	27090	40573	22373	8618	16000		
13-Jan-25	3	29937	27773	42372	24172	6819	16000		
20-Jan-25	4	30042	27878	42532	24332	6659	16000		
27-Jan-25	5	30270	28105	42579	24379	6612	16000		
03-Feb-25	6	30264	28153	43156	24956	6035	16000		

Notes - Assumptions critical:

The maintenance plan included in these assumptions includes a base scenario of outages (planned risk level). As there is opportunity for further outages, these will be included. This "likely risk scenario" includes an additional 1500 MW of outages on the base plan.

The expected imports at Apollo is included.

Avon and Dedisa is also included.

The forecast used is the latest operational weekly residual peak forecast, which excludes the expected renewable generation.

Operating Reserve (OR) from Generation: 2 200 MW

Unplanned Outage Assumption (UA): 16 000 MW

Reserves: OR + UA = 18 200 MW

Eskom Installed Capacity: 48 186 MW.

Installed Dispatchable Capacity: 49 191 MW (Incl. Avon and Dedisa).

Key:

Risk Level	Description
Green	Adequate Generation to meet Demand and Reserves.
Yellow	< 1 000MW Possibly short to meet Reserves
Orange	1 001MW – 2 000MW Definitely short to meet Reserves and possibly Demand
Red	> 2 001MW Short to meet Demand and Reserves

Medium Term Peak Demand/Capacity Forecast

Please go to the link below for the Medium-term System Adequacy Outlook - 2024 to 2028. (Published 30 October 2023).

https://www.eskom.co.za/wp-content/uploads/2023/11/Medium_Term_System_Adequacy_Outlook_2024-2028.pdf

or Download the medium-term system adequacy outlook 2024 – 2028 from

<https://www.eskom.co.za/eskom-divisions/tx/system-adequacy-reports/>

Renewable Energy Statistics

Note: Times are expressed as hour beginning

Current Installed Capacity (MW)	
CSP	500.0
PV	2,287.1
Wind (Eskom+IPP)	3,442.6
Total (Incl other REs)	6,280.2
Estimated Rooftop PV	5,203.7

Maximum Contribution (MW) - based on System Operator data (subject to metering verification)					
Cal Year	Indicator	CSP	PV	Wind (Eskom+IPP)	Total (Incl other REs)
All Time	Maximum	506.2	2,099.5	3,102.2	5,129.8
	Max Date	15-Mar-2022 15:00	24-Oct-2021 12:00	25-Aug-2023 20:00	15-Sep-2023 13:00
2016	Maximum	200.9	1,350.5	1,229.8	2,576.3
	Max Date	11-Aug-2016 14:00	16-Dec-2016 12:00	23-Dec-2016 13:00	23-Dec-2016 13:00
2017	Maximum	302.0	1,432.5	1,708.2	3,142.7
	Max Date	07-Nov-2017 10:00	27-Oct-2017 12:00	25-Dec-2017 18:00	13-Dec-2017 13:00
2018	Maximum	399.7	1,392.1	1,902.3	3,298.9
	Max Date	04-Dec-2018 16:00	03-Oct-2018 12:00	02-Oct-2018 16:00	28-Sep-2018 11:00
2019	Maximum	502.1	1,375.6	1,872.0	3,530.6
	Max Date	24-Sep-2019 11:00	19-Jan-2019 12:00	14-Dec-2019 15:00	27-Oct-2019 13:00
2020	Maximum	504.5	1,929.2	2,113.9	4,050.0
	Max Date	25-Nov-2020 12:00	25-Nov-2020 12:00	01-Dec-2020 19:00	24-Nov-2020 13:00
2021	Maximum	504.9	2,099.5	2,639.3	4,784.7
	Max Date	30-Nov-2021 16:00	24-Oct-2021 12:00	15-Dec-2021 17:00	01-Nov-2021 13:00
2022	Maximum	506.2	2,048.8	3,028.1	5,126.1
	Max Date	15-Mar-2022 15:00	20-Nov-2022 11:00	02-Dec-2022 16:00	05-Sep-2022 12:00
2023	Maximum	505.8	2,047.8	3,102.2	5,129.8
	Max Date	21-Feb-2023 13:00	12-Nov-2023 11:00	25-Aug-2023 20:00	15-Sep-2023 13:00
2024	Maximum	401.7	1,912.2	2,563.2	4,278.5
	Max Date	18-Jan-2024 14:00	06-Jan-2024 11:00	23-Jan-2024 19:00	06-Jan-2024 14:00

Annual Energy Contribution (MWh) - based on System Operator data (subject to metering verification)					
Cal Year	Indicator	CSP	PV	Wind (Eskom+IPP)	Total (Incl other REs)
All Time	Annual Energy	1,656,017	5,069,146	11,613,364	18,241,189
2016	Total Energy	529,522	2,630,141	3,730,771	6,951,261
2017	Total Energy	687,703	3,324,857	5,081,023	9,198,632
2018	Total Energy	1,031,288	3,282,124	6,467,095	10,887,902
2019	Total Energy	1,557,151	3,324,989	6,624,642	11,586,945
2020	Total Energy	1,626,049	4,140,212	6,625,830	12,478,704
2021	Total Energy	1,656,017	5,069,146	8,359,224	15,208,327
2022	Total Energy	1,448,276	4,844,736	9,692,373	16,202,974
2023	Total Energy	1,375,349	5,014,831	11,613,364	18,241,189
2024	Total Energy	128,274	458,202	924,060	1,524,220

Maximum Difference between Consecutive Evening Peaks (MW) - based on System Operator data (subject to metering verification)		
Cal Year	Indicator	Total (Incl other REs)
All Time	Maximum	2,148
	Max Date	20-Apr-2023 to 21-Apr-2023
2016	Maximum	828
	Max Date	30-Aug-2016 to 31-Aug-2016
2017	Maximum	1,038
	Max Date	19-Jun-2017 to 20-Jun-2017
2018	Maximum	1,336
	Max Date	01-Sep-2018 to 02-Sep-2018
2019	Maximum	1,464
	Max Date	05-Jul-2019 to 06-Jul-2019
2020	Maximum	1,488
	Max Date	31-Aug-2020 to 01-Sep-2020
2021	Maximum	1,744
	Max Date	07-Aug-2021 to 08-Aug-2021
2022	Maximum	1,523
	Max Date	07-Aug-2022 to 08-Aug-2022
2023	Maximum	2,148
	Max Date	20-Apr-2023 to 21-Apr-2023
2024	Maximum	1,298
	Max Date	29-Jan-2024 to 30-Jan-2024

Maximum proportion that Renewables contributed towards actual hourly energy supplied (%) - based on System Operator data (subject to metering verification)		
Cal Year	Indicator	Total (Incl other REs)
All Time	Maximum	21.8%
	Max Date	20-Feb-2023 15:00
2016	Maximum	9.8%
	Max Date	23-Dec-2016 13:00
2017	Maximum	12.7%
	Max Date	25-Dec-2017 15:00
2018	Maximum	13.1%
	Max Date	01-Jan-2018 14:00
2019	Maximum	13.9%
	Max Date	14-Dec-2019 14:00
2020	Maximum	16.1%
	Max Date	27-Dec-2020 15:00
2021	Maximum	19.1%
	Max Date	01-Nov-2021 13:00
2022	Maximum	19.3%
	Max Date	05-Sep-2022 12:00
2023	Maximum	21.8%
	Max Date	20-Feb-2023 15:00
2024	Maximum	18.6%
	Max Date	01-Jan-2024 09:00

Estimated Rooftop PV

Maximum/Installed Rooftop PV (MW):	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	Northern Cape	North-West	Western Cape	Total
Dec-23	368.2	280.2	1,295.00	810.9	413.3	516.1	208.4	669.3	642.4	5,203.70
Nov-23	368.2	280.2	1,216.60	810.9	413.3	509.3	129.5	669.3	642.4	5,039.60
Oct-23	368.2	280.2	1,207.80	810.9	413.3	509.3	129.5	669.3	616.8	5,005.00
Sep-23	368.2	280.2	1,207.80	810.9	413.3	476.6	129.5	669.3	527.4	4,883.00
Aug-23	368.2	280.2	1,207.80	810.9	345.6	474.1	129.5	669.3	527.4	4,812.80
Jul-23	368.2	280.2	1,207.80	810.9	296.6	450.7	129.5	669.3	527.4	4,740.40
Jun-23	284.3	280.2	1,207.80	565.8	296.6	450.7	129.5	669.3	527.4	4,411.50
May-23	190	204.9	1072.1	565.8	296.6	450.7	129.5	669.3	457.9	4,036.80
Apr-23	163.2	160.5	917.5	417.5	226.8	326.7	117.5	669.3	369	3,368.00
Mar-23	163.2	160.5	917.5	417.5	189.8	317.9	117.5	669.3	289.7	3,242.80
Feb-23	163.2	160.5	917.5	417.5	189.8	305.6	117.5	669.3	198	3,138.80
Jan-23	143.1	160.5	917.5	417.5	189.8	298.8	82.6	669.3	198	3,077.10
Dec-22	130.2	160.3	848.3	368.7	189.8	298.8	82	310.4	198	2,586.40
Nov-22	130.2	160.3	848.3	368.7	189.8	298.8	79.1	184.8	161.9	2,421.90
Oct-22	130.2	160.3	848.3	296.9	189.8	298.8	79.1	184.8	150	2,338.10
Sep-22	130.2	160.3	848.3	296.9	189.8	298.8	79.1	184.8	145.5	2,333.60
Aug-22	130.2	160.3	848.3	296.9	189.8	298.8	79.1	184.8	145.5	2,333.60
Jul-22	130.2	148.8	790.6	296.9	189.8	298.8	79.1	184.8	145.5	2,264.50

If there is a big jump from month to month it is mainly due to the high number of cloudy days during the latter month, not necessarily due to the number of installations in that month. It would very likely have been distributed in the preceding few months.