

Weekly System Status Report – 2024 Week 5 (29/01/2024 – 04/02/2024)

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 29/Jan/2024	25,613	704	26,411	25,297	1.2%	4.0%	4.4%
Tue 30/Jan/2024	27,041	719	26,495	26,766	1.0%	3.7%	-1.0%
Wed 31/Jan/2024	26,454	716	26,657	26,982	-2.0%	0.7%	-1.2%
Thu 01/Feb/2024	26,566	704	26,698	26,864	-1.1%	1.5%	-0.6%
Fri 02/Feb/2024	26,386	702	25,998	26,186	0.8%	3.4%	-0.7%
Sat 03/Feb/2024	26,631	718	25,138	25,367	5.0%	7.8%	-0.9%
Sun 04/Feb/2024	27,089	691	25,307	25,105	7.9%	10.7%	0.8%

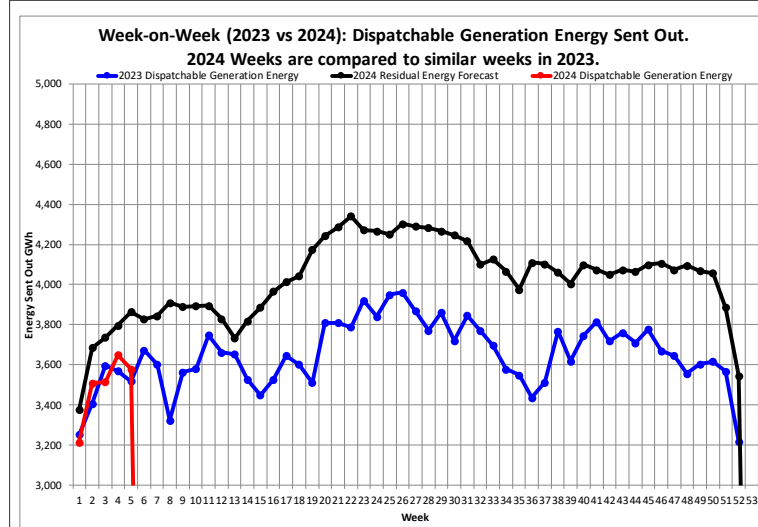
Date	Total Available Generation Incl Renewables (MW)	Non-commercial Generation (MW)	RSA Contracted Load Forecast (MW)	Actual RSA Contracted Demand (MW) Incl IOS	Operating Reserve Margin (Excl Non-Commercial Units)	Operating Reserve Margin (Incl Non-Commercial Units)	Forecast vs. Actual (RSA Contracted Demand)
Mon 29/Jan/2024	28,566	704	28,432	28,249	1.1%	3.6%	0.6%
Tue 30/Jan/2024	28,402	719	28,259	28,127	1.0%	3.5%	0.5%
Wed 31/Jan/2024	28,003	716	28,159	28,531	-1.9%	0.7%	-1.3%
Thu 01/Feb/2024	28,145	704	27,766	28,443	-1.0%	1.4%	-2.4%
Fri 02/Feb/2024	27,395	702	27,292	27,195	0.7%	3.3%	0.4%
Sat 03/Feb/2024	27,749	718	26,248	26,485	4.8%	7.5%	-0.9%
Sun 04/Feb/2024	28,618	691	26,666	26,635	7.4%	10.0%	0.1%

Notes:

- Available Dispatchable Generation means **all generation resources** that can be dispatched by Eskom and includes capacity available from all emergency generation resources.
- RSA Contracted Load Forecast is the total official day-ahead hourly forecast. Residual Load Forecast excludes the expected generation from renewables.
- 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.
- Net Maximum Dispatchable Capacity (including imports and emergency generation resources) = 49 191 MW.
- These figures do not include any demand side products.
- 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 5 : Dispatchable Generation Energy Sent Out Statistics		
Energy Sent Out	3,577	GWh
Week-on-Week Growth	1.70	%
Year-on-Year Growth (Year-to-Date) Annual	0.71	%

Note:

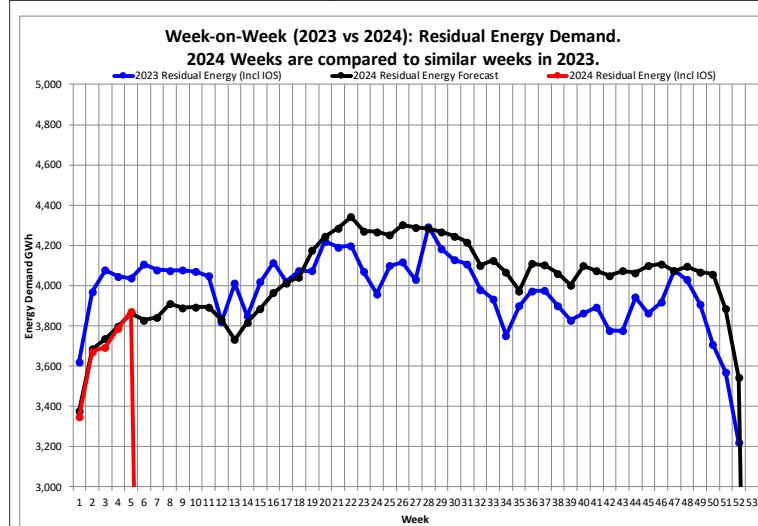
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Dispatchable Generation Energy Sent Out Statistics			
Year	01 Jan to 04 Feb Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	20,526	219,575	GWh
2020	20,208	206,725	GWh
2021	19,351	210,022	GWh
2022	19,535	202,845	GWh
2023	17,268	190,289	GWh
2024 (YTD)	17,463		GWh

Week-on-Week Residual Energy Demand

[2023 weeks compared to similar 2022 weeks]



Week 5 : Residual Energy Demand Statistics		
Energy Demand	3,872	GWh
Week-on-Week Growth	-4.10	%
Year-on-Year Growth (Year-to-Date) Annual	-6.99	%

Note:

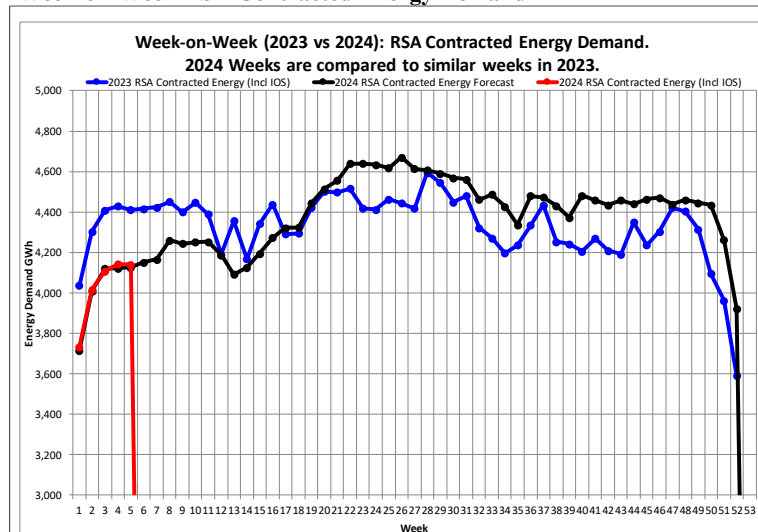
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Residual Energy Demand Statistics			
Year	01 Jan to 04 Feb Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	20,546	220,937	GWh
2020	20,451	208,151	GWh
2021	19,519	211,958	GWh
2022	19,643	211,132	GWh
2023	19,693	207,045	GWh
2024 (YTD)	18,372		GWh

Week-on-Week RSA Contracted Energy Demand

[2023 weeks compared to similar 2022 weeks]



Week 5 : RSA Contracted Energy Demand Statistics		
Energy Demand	4,141	GWh
Week-on-Week Growth	-6.14	%
Year-on-Year Growth (Year-to-Date) Annual	-6.70	%

Note:

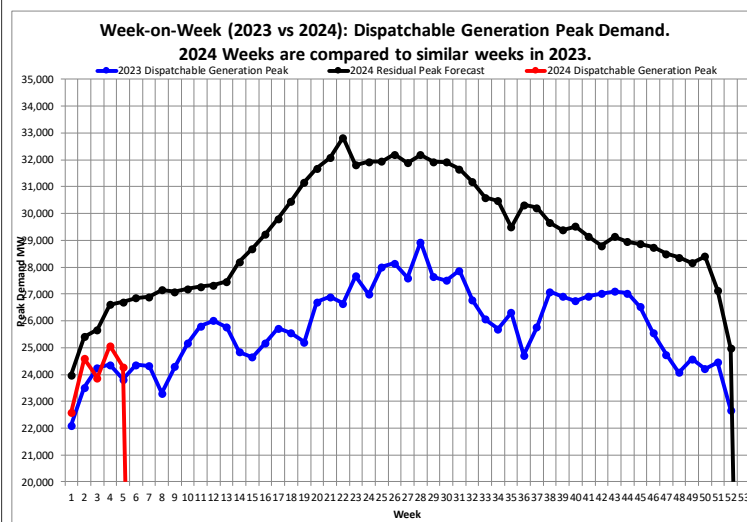
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual RSA Contracted Energy Demand Statistics			
Year	01 Jan to 04 Feb Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	21,865	232,524	GWh
2020	21,667	220,630	GWh
2021	20,960	227,166	GWh
2022	21,165	227,335	GWh
2023	21,529	225,730	GWh
2024 (YTD)	20,143		GWh

Week-on-Week Dispatchable Generation Peak Demand

[2023 weeks compared to similar 2022 weeks]



Week 5 : Dispatchable Generation Peak Demand Statistics			
Peak Demand	24,276	MW	
Week-on-Week Growth	1.94	%	
Year-on-Year Growth (Year-to-Date) Annual	2.89	%	

Note:

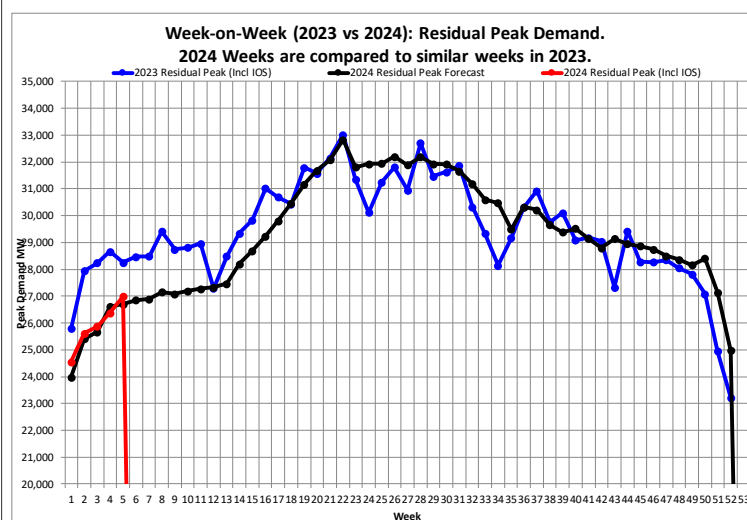
2024 Weeks are compared to similar weeks in 2023.

(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	25,066	MW

Week-on-Week Residual Peak Demand

[2023 weeks compared to similar 2022 weeks]



Week 5 : Residual Peak Demand Statistics			
Peak Demand	26,982	MW	
Week-on-Week Growth	-4.52	%	
Year-on-Year Growth (Year-to-Date) Annual	-5.87	%	

Note:

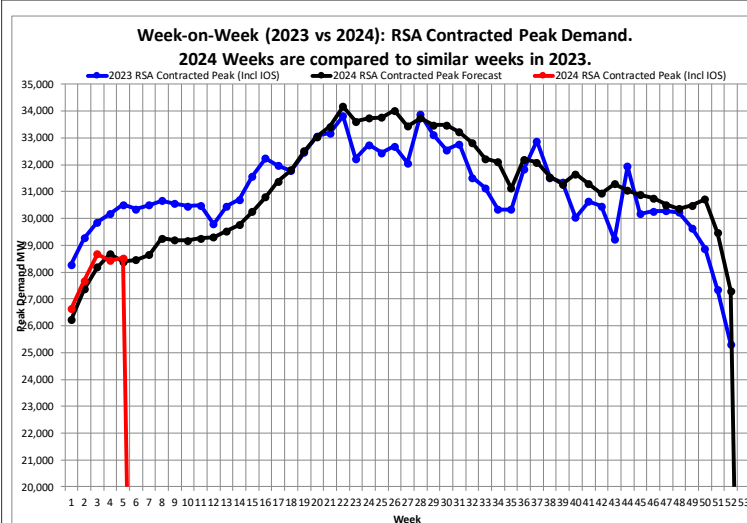
2024 Weeks are compared to similar weeks in 2023.

(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)	Wed 31-Jan-2024	26,982	MW

Week-on-Week RSA Contracted Peak Demand

[2023 weeks compared to similar 2022 weeks]



Week 5 : RSA Contracted Peak Demand Statistics			
Peak Demand	28,531	MW	
Week-on-Week Growth	-6.48	%	
Year-on-Year Growth (Year-to-Date) Annual	-5.99	%	

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)	Thu 18-Jan-2024	28,680	MW

Weekly Generation Availability

	Week															Annual (Jan - Dec)	
	44	45	46	47	48	49	50	51	52	1	2	3	4	5	2024	2023	
Energy Availability Factor (Eskom EAF)	54.46	55.13	53.51	54.96	54.57	55.07	54.72	54.66	49.51	48.70	51.52	51.90	53.08	51.70	51.55	54.71	
Planned Outage Factor	8.91	10.27	10.87	11.42	13.76	14.53	17.89	17.29	19.07	18.93	17.67	17.98	16.76	16.36	17.44	10.88	
Unplanned Outage Factor	35.47	33.03	33.78	31.90	30.08	28.79	26.16	26.91	30.38	31.11	29.55	28.70	29.07	30.96	29.81	33.08	
Other Outage Factor	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	0.98	1.20	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	MW 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)
05-Feb-24	6	28465	26856	39897	21697	9294	16000		
12-Feb-24	7	28654	26891	40617	22417	8574	16000		
19-Feb-24	8	29268	27157	41750	23550	7441	16000		
26-Feb-24	9	29190	27079	41900	23700	7291	16000		
04-Mar-24	10	29177	27197	42479	24279	6712	16000		
11-Mar-24	11	29260	27280	42332	24132	6859	16000		
18-Mar-24	12	29302	27323	43349	25149	5842	16000		
25-Mar-24	13	29535	27467	44189	25989	5002	16000		
01-Apr-24	14	29771	28201	44280	26080	4911	16000		
08-Apr-24	15	30254	28684	43560	25360	5631	16000		
15-Apr-24	16	30806	29236	44223	26023	4968	16000		
22-Apr-24	17	31380	29810	44223	26023	4968	16000		
29-Apr-24	18	31808	30457	45213	27013	3978	16000		
06-May-24	19	32516	31166	46493	28293	2698	16000		
13-May-24	20	33041	31690	46493	28293	2698	16000		
20-May-24	21	33431	32081	47086	28886	2105	16000		
27-May-24	22	34180	32830	47086	28886	2105	16000		
03-Jun-24	23	33622	31802	46366	28166	2825	16000		
10-Jun-24	24	33746	31927	46366	28166	2825	16000		
17-Jun-24	25	33765	31945	46276	28076	2915	16000		
24-Jun-24	26	34023	32204	46716	28516	2475	16000		
01-Jul-24	27	33440	31884	46816	28616	2375	16000		
08-Jul-24	28	33738	32182	46816	28616	2375	16000		
15-Jul-24	29	33487	31932	46961	28761	2230	16000		
22-Jul-24	30	33477	31921	46871	28671	2320	16000		
29-Jul-24	31	33217	31661	46961	28761	2230	16000		
05-Aug-24	32	32815	31183	45753	27553	3438	16000		
12-Aug-24	33	32235	30602	45283	27083	3908	16000		
19-Aug-24	34	32102	30469	45728	27528	3463	16000		
26-Aug-24	35	31122	29489	45626	27426	3565	16000		
02-Sep-24	36	32206	30318	45441	27241	3750	16000		
09-Sep-24	37	32100	30213	44848	26648	4343	16000		
16-Sep-24	38	31551	29663	44568	26368	4623	16000		
23-Sep-24	39	31272	29384	43550	25350	5641	16000		
30-Sep-24	40	31663	29516	44781	26581	4410	16000		
07-Oct-24	41	31291	29143	43503	25303	5688	16000		
14-Oct-24	42	30935	28796	43253	25053	5938	16000		
21-Oct-24	43	31288	29140	43253	25053	5938	16000		
28-Oct-24	44	31043	28945	42993	24793	6198	16000		
04-Nov-24	45	30877	28868	43087	24887	6104	16000		
11-Nov-24	46	30756	28747	43973	25773	5218	16000		
18-Nov-24	47	30513	28504	43480	25280	5711	16000		
25-Nov-24	48	30369	28360	43480	25280	5711	16000		
02-Dec-24	49	30491	28165	43585	25385	5606	16000		
09-Dec-24	50	30725	28398	43585	25385	5606	16000		
16-Dec-24	51	29472	27145	42318	24118	6873	16000		
23-Dec-24	52	27305	24979	41103	22903	8088	16000		
30-Dec-24	1	27003	24770	41428	23228	7763	16000		
06-Jan-25	2	29323	27090	42625	24425	6566	16000		
13-Jan-25	3	30006	27773	42357	24157	6834	16000		
20-Jan-25	4	30111	27878	41543	23343	7648	16000		
27-Jan-25	5	30338	28105	42803	24603	6388	16000		
03-Feb-25	6	30264	28153	43509	25309	5682	16000		
10-Feb-25	7	30442	28331	43509	25309	5682	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	5,412.3

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	401.3	1,969.8	2,604.2	4,360.0
	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	18,241,202
2016	Total Energy	529,522	2,630,141	3,730,771	6,951,261
	Total Energy	687,703	3,324,857	5,081,023	9,198,632
2017	Total Energy	1,031,288	3,282,124	6,467,095	10,887,902
	Total Energy	1,557,151	3,324,989	6,624,642	11,586,945
2018	Total Energy	1,626,049	4,140,212	6,625,830	12,478,704
	Total Energy	1,656,017	5,069,146	8,359,224	15,208,327
2019	Total Energy	1,448,276	4,844,736	9,692,373	16,202,974
	Total Energy	1,375,349	5,014,845	11,613,364	18,241,202
2020	Total Energy	164,294	689,389	1,249,918	2,121,135
	Total Energy				

Maximum Difference between Consecutive Evening Peaks (MW) - based on System Operator data (subject to metering verification)			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)	Cal Year	Indicator	Total (Incl other REs)
All Time	Maximum	2,148	All Time	Maximum	21.8%
	Max Date	20-Apr-2023 to 21-Apr-2023		Max Date	20-Feb-2023 15:00
2016	Maximum	828	2016	Maximum	9.8%
	Max Date	30-Aug-2016 to 31-Aug-2016		Max Date	23-Dec-2016 13:00
2017	Maximum	1,038	2017	Maximum	12.7%
	Max Date	19-Jun-2017 to 20-Jun-2017		Max Date	25-Dec-2017 15:00
2018	Maximum	1,336	2018	Maximum	13.1%
	Max Date	01-Sep-2018 to 02-Sep-2018		Max Date	01-Jan-2018 14:00
2019	Maximum	1,464	2019	Maximum	13.9%
	Max Date	05-Jul-2019 to 06-Jul-2019		Max Date	14-Dec-2019 14:00
2020	Maximum	1,488	2020	Maximum	16.1%
	Max Date	31-Aug-2020 to 01-Sep-2020		Max Date	27-Dec-2020 15:00
2021	Maximum	1,744	2021	Maximum	19.1%
	Max Date	07-Aug-2021 to 08-Aug-2021		Max Date	01-Nov-2021 13:00
2022	Maximum	1,523	2022	Maximum	19.3%
	Max Date	07-Aug-2022 to 08-Aug-2022		Max Date	05-Sep-2022 12:00
2023	Maximum	2,148	2023	Maximum	21.8%
	Max Date	20-Apr-2023 to 21-Apr-2023		Max Date	20-Feb-2023 15:00
2024	Maximum	1,591	2024	Maximum	19.0%
	Max Date	29-Jan-2024 to 30-Jan-2024		Max Date	01-Jan-2024 09:00

Estimated Rooftop PV

Maximum/Inst alled Rooftop PV (MW):	Eastern Cape	Free State	Gauteng	KwaZulu- Natal	Limpopo	Mpumala nga	Northern Cape	North- West	Western Cape	Total
Jan-24	368.2	280.2	1,503.70	810.9	413.3	516.1	208.4	669.3	642.4	5,412.30
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	356.6	189.8	298.8	82	310.4	198	2,574.30
Nov-22	130.2	160.3	848.3	356.6	189.8	298.8	79.1	184.8	156.6	2,404.50
Oct-22	130.2	160.3	848.3	296.9	189.8	298.8	79.1	184.8	145.5	2,333.60
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.