

Weekly System Status Report – 2024 Week 20 (13/05/2024 – 19/05/2024)

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 13/May/2024	33,943	0	28,370	28,241	20.2%	20.2%	0.5%
Tue 14/May/2024	33,582	0	28,720	28,529	17.7%	17.7%	0.7%
Wed 15/May/2024	33,159	0	28,648	29,289	13.2%	13.2%	-2.2%
Thu 16/May/2024	33,067	726	28,509	28,303	16.8%	19.4%	0.7%
Fri 17/May/2024	32,354	704	27,436	27,329	18.4%	21.0%	0.4%
Sat 18/May/2024	30,946	728	26,194	26,408	17.2%	19.9%	-0.8%
Sun 19/May/2024	31,238	651	26,664	26,835	16.4%	18.8%	-0.6%

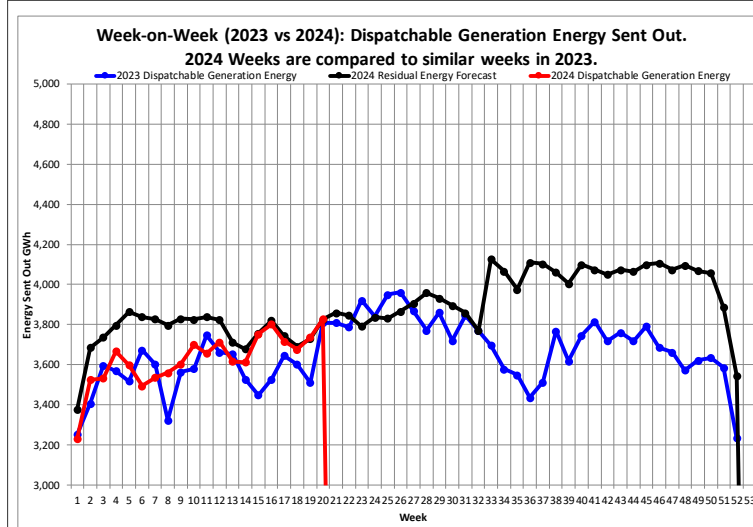
Date	Total Available Generation Incl Renewables (MW)	Non-commercial Generation (MW)	RSA Contracted Load Forecast (MW)	Actual RSA Contracted Demand (MW) Incl IOS	Operating Reserve Margin (Excl Non-Commercial Units)	Operating Reserve Margin (Incl Non-Commercial Units)	Forecast vs. Actual (RSA Contracted Demand)
Mon 13/May/2024	35,636	0	29,834	29,934	19.0%	19.0%	-0.3%
Tue 14/May/2024	35,139	0	30,185	30,086	16.8%	16.8%	0.3%
Wed 15/May/2024	33,996	0	29,732	30,127	12.8%	12.8%	-1.3%
Thu 16/May/2024	34,929	726	29,796	30,165	15.8%	18.2%	-1.2%
Fri 17/May/2024	33,554	704	28,882	28,530	17.6%	20.1%	1.2%
Sat 18/May/2024	32,527	728	27,434	27,989	16.2%	18.8%	-2.0%
Sun 19/May/2024	32,490	651	28,134	28,087	15.7%	18.0%	0.2%

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

[2024 weeks compared to similar 2023 weeks]



Week 20 : Dispatchable Generation Energy Sent Out Statistics		
Energy Sent Out	3,827	GWh
Week-on-Week Growth	0.48	%
Year-on-Year Growth (Year-to-Date) Annual	1.88	%

Note:

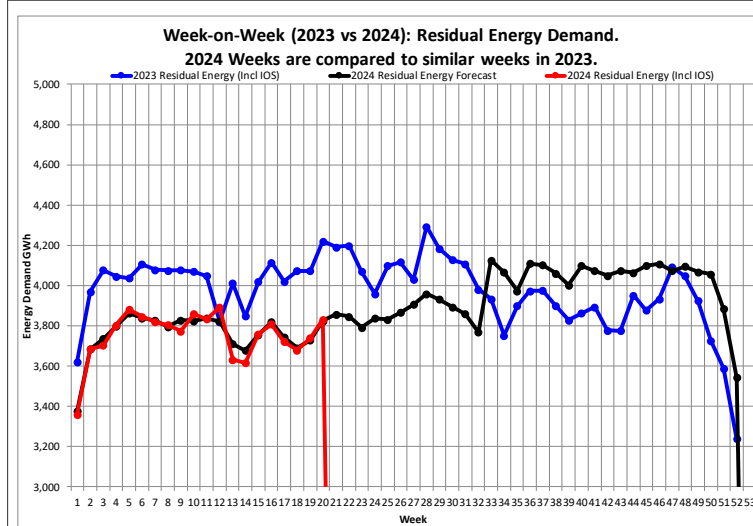
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Dispatchable Generation Energy Sent Out Statistics			
Year	01 Jan to 19 May Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	82,961	219,575	GWh
2020	76,405	206,725	GWh
2021	79,380	210,022	GWh
2022	78,993	202,845	GWh
2023	70,567	190,434	GWh
2024 (YTD)	72,548		GWh

Week-on-Week Residual Energy Demand

[2024 weeks compared to similar 2023 weeks]



Week 20 : Residual Energy Demand Statistics		
Energy Demand	3,832	GWh
Week-on-Week Growth	-9.22	%
Year-on-Year Growth (Year-to-Date) Annual	-6.67	%

Note:

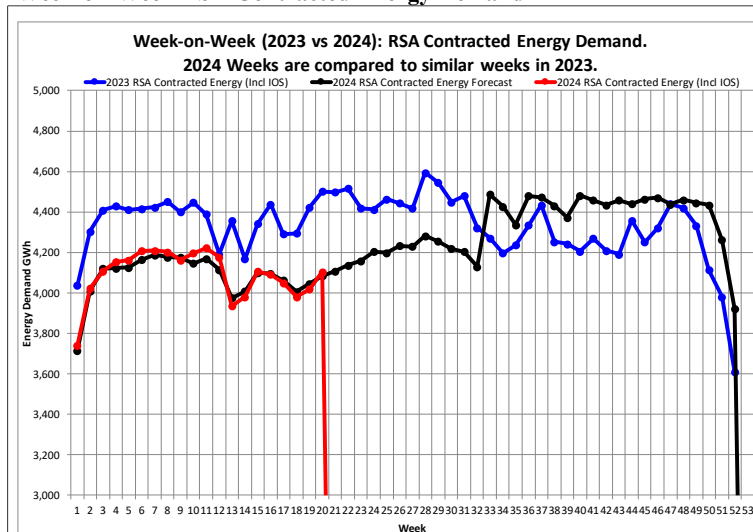
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Residual Energy Demand Statistics			
Year	01 Jan to 19 May Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	83,637	220,937	GWh
2020	77,266	208,151	GWh
2021	80,062	211,958	GWh
2022	79,976	211,132	GWh
2023	79,741	207,190	GWh
2024 (YTD)	75,046		GWh

Week-on-Week RSA Contracted Energy Demand

[2024 weeks compared to similar 2023 weeks]



Week 20 : RSA Contracted Energy Demand Statistics		
Energy Demand	4,105	GWh
Week-on-Week Growth	-8.81	%
Year-on-Year Growth (Year-to-Date) Annual	-6.08	%

Note:

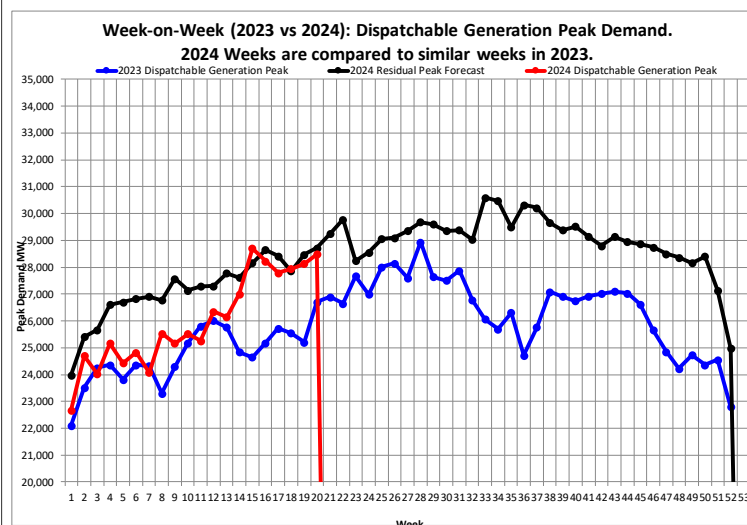
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual RSA Contracted Energy Demand Statistics			
Year	01 Jan to 19 May Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	87,996	232,524	GWh
2020	81,522	220,630	GWh
2021	85,314	227,166	GWh
2022	85,683	227,335	GWh
2023	86,416	225,875	GWh
2024 (YTD)	81,833		GWh

Week-on-Week Dispatchable Generation Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 20 : Dispatchable Generation Peak Demand Statistics		
Peak Demand	28,491	MW
Week-on-Week Growth	6.68	%
Year-on-Year Growth (Year-to-Date) Annual	7.50	%

Note:

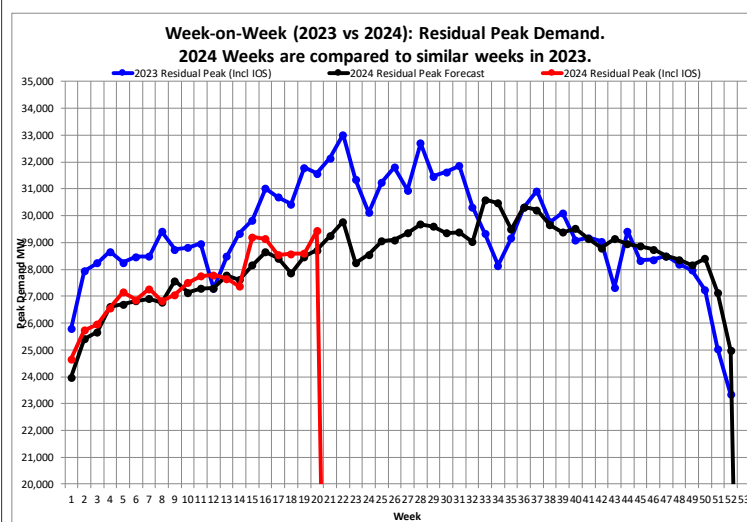
2024 Weeks are compared to similar weeks in 2023.

(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)	Mon 08-Apr-2024	28,710	MW

Week-on-Week Residual Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 20 : Residual Peak Demand Statistics		
Peak Demand	29,439	MW
Week-on-Week Growth	-6.78	%
Year-on-Year Growth (Year-to-Date) Annual	-7.43	%

Note:

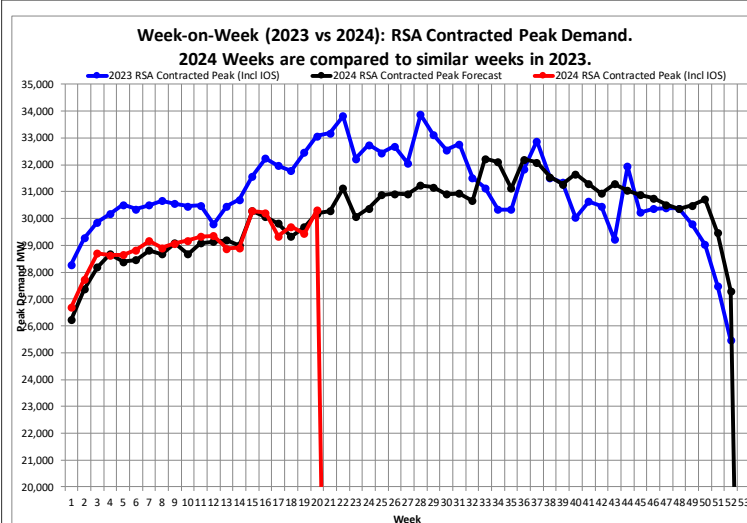
2024 Weeks are compared to similar weeks in 2023.

(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 15-May-2024	29,439	MW

Week-on-Week RSA Contracted Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 20 : RSA Contracted Peak Demand Statistics		
Peak Demand	30,315	MW
Week-on-Week Growth	-8.36	%
Year-on-Year Growth (Year-to-Date) Annual	-8.36	%

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 16-May-2024	30,315	MW

Weekly Generation Availability

	Week														Annual (Jan - Dec)	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	2024	2023
Energy Availability Factor (Eskom EAF)	52.50	51.61	53.83	53.58	53.63	53.89	56.76	57.00	58.41	57.95	58.59	62.07	65.14	64.83	55.38	54.69
Planned Outage Factor	17.13	16.75	16.07	13.19	14.44	13.91	13.02	11.23	12.11	12.00	10.46	12.01	8.58	8.49	14.09	10.90
Unplanned Outage Factor	29.36	30.48	29.10	32.74	31.47	31.80	29.87	31.34	28.97	29.41	30.58	25.61	26.01	25.89	29.77	33.08
Other Outage Factor	1.01	1.16	1.00	0.49	0.46	0.40	0.35	0.43	0.51	0.64	0.37	0.31	0.27	0.79	0.76	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 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 (-16200 MW)	MW Likely Risk Scenario (-18200 MW)
20-May-24	21	30282	29249	44377	28177	4814	14000		
27-May-24	22	31131	29781	45838	29638	3353	14000		
03-Jun-24	23	30059	28240	44762	28562	4429	14000		
10-Jun-24	24	30380	28561	44354	28154	4837	14000		
17-Jun-24	25	30879	29059	44857	28657	4334	14000		
24-Jun-24	26	30923	29103	44857	28657	4334	14000		
01-Jul-24	27	30913	29357	46348	30148	2843	14000		
08-Jul-24	28	31236	29680	45873	29673	3318	14000		
15-Jul-24	29	31163	29607	45891	29691	3300	14000		
22-Jul-24	30	30910	29354	46521	30321	2670	14000		
29-Jul-24	31	30939	29383	47186	30986	2005	14000		
05-Aug-24	32	30668	29036	45848	29648	3343	14000		
12-Aug-24	33	32235	30602	45276	29076	3915	14000		
19-Aug-24	34	32102	30469	45378	29178	3813	14000		
26-Aug-24	35	31122	29489	45276	29076	3915	14000		
02-Sep-24	36	32206	30318	45091	28891	4100	14000		
09-Sep-24	37	32100	30213	44498	28298	4693	14000		
16-Sep-24	38	31551	29663	44568	28368	4623	14000		
23-Sep-24	39	31272	29384	43550	27350	5641	14000		
30-Sep-24	40	31663	29516	45151	28951	4040	14000		
07-Oct-24	41	31291	29143	44098	27898	5093	14000		
14-Oct-24	42	30935	28796	43623	27423	5568	14000		
21-Oct-24	43	31288	29140	44198	27998	4993	14000		
28-Oct-24	44	31043	28945	43363	27163	5828	14000		
04-Nov-24	45	30877	28868	43457	27257	5734	14000		
11-Nov-24	46	30756	28747	42903	26703	6288	14000		
18-Nov-24	47	30513	28504	43110	26910	6081	14000		
25-Nov-24	48	30369	28360	43110	26910	6081	14000		
02-Dec-24	49	30491	28165	42865	26665	6326	14000		
09-Dec-24	50	30725	28398	42865	26665	6326	14000		
16-Dec-24	51	29472	27145	41598	25398	7593	14000		
23-Dec-24	52	27305	24979	41103	24903	8088	14000		
30-Dec-24	1	27003	24770	40953	24753	8238	14000		
06-Jan-25	2	29323	27090	42275	26075	6916	14000		
13-Jan-25	3	30006	27773	42257	26057	6934	14000		
20-Jan-25	4	30111	27878	41793	25593	7398	14000		
27-Jan-25	5	30338	28105	43403	27203	5788	14000		
03-Feb-25	6	30275	28153	43759	27559	5432	14000		
10-Feb-25	7	30453	28331	43759	27559	5432	14000		
17-Feb-25	8	30607	28486	42678	26478	6513	14000		
24-Feb-25	9	30504	28382	43973	27773	5218	14000		
03-Mar-25	10	30359	28547	43253	27053	5938	14000		
10-Mar-25	11	30779	28967	43253	27053	5938	14000		
17-Mar-25	12	30715	28808	43158	26958	6033	14000		
24-Mar-25	13	30578	28744	42733	26533	6458	14000		
31-Mar-25	14	30504	28778	42686	26486	6505	14000		
07-Apr-25	15	30981	29254	42876	26676	6315	14000		
14-Apr-25	16	31342	29616	43596	27396	5595	14000		
21-Apr-25	17	32093	30366	44258	28058	4933	14000		
28-Apr-25	18	31446	29719	44258	28058	4933	14000		
05-May-25	19	32689	31338	45446	29246	3745	14000		
12-May-25	20	33228	31878	46111	29911	3080	14000		
19-May-25	21	34279	32929	45921	29721	3270	14000		
26-May-25	22	34383	33033	46334	30134	2857	14000		

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): 14 000 MW

Reserves: OR + UA = 16 200 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
Hybrid	150.0
Total (Incl other REs)	6,430.2
Estimated Rooftop PV	5,490.0

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	2,111.7	3,102.2	5,129.8
	Max Date	15-Mar-2022 15:00	10-Feb-2024 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
Dec 2016	Max Date	09-Dec-2016 12:00	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
Dec 2017	Max Date	23-Dec-2017 16:00	25-Dec-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
Dec 2018	Max Date	04-Dec-2018 16:00	13-Dec-2018 12:00	27-Dec-2018 16:00	01-Dec-2018 12:00
2019	Maximum	502.1	1,375.6	1,872.0	3,530.6
Dec 2019	Max Date	19-Dec-2019 11:00	15-Dec-2019 11:00	14-Dec-2019 15:00	14-Dec-2019 14:00
2020	Maximum	504.5	1,929.2	2,113.9	4,050.0
Dec 2020	Max Date	11-Dec-2020 12:00	02-Dec-2020 11:00	01-Dec-2020 19:00	01-Dec-2020 13:00
2021	Maximum	504.9	2,099.5	2,639.3	4,784.7
Dec 2021	Max Date	29-Dec-2021 11:00	01-Dec-2021 12:00	15-Dec-2021 17:00	15-Dec-2021 15:00
2022	Maximum	506.2	2,048.8	3,028.1	5,126.1
Dec 2022	Max Date	04-Dec-2022 09:00	03-Dec-2022 12:00	02-Dec-2022 16:00	02-Dec-2022 15:00
2023	Maximum	505.8	2,047.8	3,102.2	5,129.8
Dec 2023	Max Date	14-Dec-2023 15:00	08-Dec-2023 11:00	14-Dec-2023 18:00	14-Dec-2023 15:00
2024	Maximum	501.6	2,111.7	3,049.9	4,995.7
Dec 2024	Max Date				

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	529,522	2,630,141	3,730,771	6,951,261
Dec 2016	Total	45,871	329,889	389,040	773,152
2017	Total	687,703	3,324,857	5,081,023	9,198,632
Dec 2017	Total	120,490	335,874	579,133	1,043,570
2018	Total	1,031,288	3,282,124	6,467,095	10,887,902
Dec 2018	Total	138,945	333,543	560,078	1,040,835
2019	Total	1,557,151	3,324,989	6,624,642	11,586,945
Dec 2019	Total	168,251	299,366	640,412	1,115,544
2020	Total	1,626,049	4,140,212	6,625,830	12,478,704
Dec 2020	Total	195,725	476,522	674,198	1,356,380
2021	Total	1,656,017	5,069,146	8,359,224	15,208,327
Dec 2021	Total	179,667	491,187	791,019	1,473,718
2022	Total	1,448,276	4,844,736	9,692,373	16,202,974
Dec 2022	Total	186,297	497,137	938,268	1,642,267
2023	Total	1,375,349	5,014,845	11,613,364	18,241,202
Dec 2023	Total	137,835	484,361	1,041,728	1,673,035
2024	Total	585,812	2,125,125	4,221,758	7,014,880
Dec 2024	Total				

Maximum Difference between Consecutive Evening Peaks (MW) -			Maximum proportion that Renewables contributed towards actual hourly energy		
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%
Dec 2016	Max Date	25-Dec-2016 to 26-Dec-2016	Dec 2016	Max Date	23-Dec-2016 13:00
2017	Maximum	1,038	2017	Maximum	12.7%
Dec 2017	Max Date	08-Dec-2017 to 09-Dec-2017	Dec 2017	Max Date	25-Dec-2017 15:00
2018	Maximum	1,336	2018	Maximum	13.1%
Dec 2018	Max Date	05-Dec-2018 to 06-Dec-2018	Dec 2018	Max Date	01-Dec-2018 12:00
2019	Maximum	1,464	2019	Maximum	13.9%
Dec 2019	Max Date	07-Dec-2019 to 08-Dec-2019	Dec 2019	Max Date	14-Dec-2019 14:00
2020	Maximum	1,488	2020	Maximum	16.1%
Dec 2020	Max Date	01-Dec-2020 to 02-Dec-2020	Dec 2020	Max Date	27-Dec-2020 15:00
2021	Maximum	1,744	2021	Maximum	19.1%
Dec 2021	Max Date	02-Dec-2021 to 03-Dec-2021	Dec 2021	Max Date	15-Dec-2021 13:00
2022	Maximum	1,523	2022	Maximum	19.3%
Dec 2022	Max Date	22-Dec-2022 to 23-Dec-2022	Dec 2022	Max Date	29-Dec-2022 14:00
2023	Maximum	2,148	2023	Maximum	21.8%
Dec 2023	Max Date	30-Dec-2023 to 31-Dec-2023	Dec 2023	Max Date	22-Dec-2023 12:00
2024	Maximum	1,720	2024	Maximum	19.8%
Dec 2024	Max Date		Dec 2024	Max Date	

Estimated Rooftop PV

Maximum/Installed Rooftop PV (MW):	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	Northern Cape	North-West	Western Cape	Total
Apr-24	368.2	319.2	1,503.70	810.9	413.3	516.1	247	669.3	642.4	5,490.00
Mar-24	368.2	307.7	1,503.70	810.9	413.3	516.1	208.4	669.3	642.4	5,439.90
Feb-24	368.2	307.7	1,503.70	810.9	413.3	516.1	208.4	669.3	642.4	5,439.90
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	1207.8	810.9	345.6	474.1	129.5	669.3	527.4	4,812.80
Jul-23	368.2	280.2	1207.8	810.9	296.6	450.7	129.5	669.3	527.4	4,740.40
Jun-23	284.3	280.2	1207.8	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.