Weekly System Status Report – 2024 Week 21 (20/05/2024 – 26/05/2024)

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 20/May/2024	30,966	582	28,760	28,564	8.4%	10.4%	0.7%
Tue 21/May/2024	31,674	727	29,195	29,420	7.7%	10.1%	-0.8%
Wed 22/May/2024	31,417	728	29,003	29,506	6.5%	8.9%	-1.7%
Thu 23/May/2024	32,167	436	29,775	28,848	11.5%	13.0%	3.2%
Fri 24/May/2024	31,704	582	27,545	27,533	15.1%	17.3%	0.0%
Sat 25/May/2024	31,572	729	26,858	27,481	14.9%	17.5%	-2.3%
Sun 26/May/2024	32,868	728	27,398	27,529	19.4%	22.0%	-0.5%

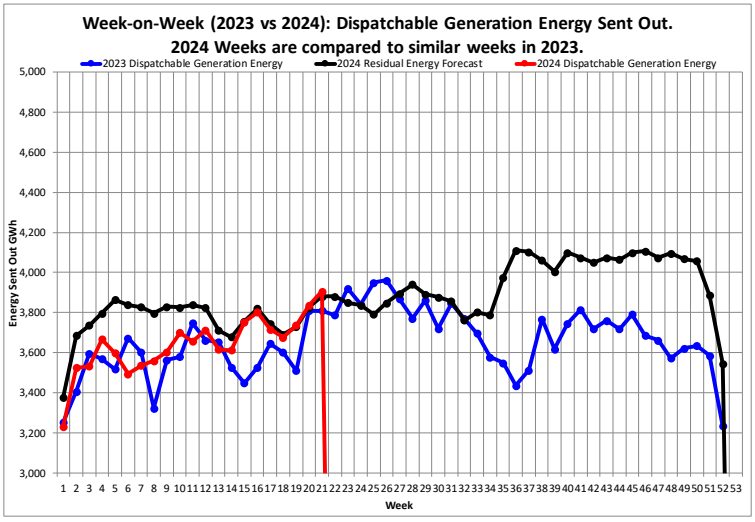
Date	Total Available Generation Incl Renewables (MW)	Non-commercial Generation (MW)	RSA Contracted Load Forecast (MW)	Actual RSA Contracted Demand (MW) Incl IOS	Operating Reserve Margin (Excl Non-Commercial Units)	Operating Reserve Margin (Incl Non-Commercial Units)	Forecast vs. Actual (RSA Contracted Demand)
Mon 20/May/2024	32,564	582	30,128	30,162	8.0%	9.9%	-0.1%
Tue 21/May/2024	32,674	727	30,254	30,420	7.4%	9.8%	-0.5%
Wed 22/May/2024	32,221	728	29,973	30,310	6.3%	8.7%	-1.1%
Thu 23/May/2024	33,783	436	30,971	30,465	10.9%	12.3%	1.7%
Fri 24/May/2024	33,328	582	29,077	29,157	14.3%	16.3%	-0.3%
Sat 25/May/2024	32,447	729	28,006	28,356	14.4%	17.0%	-1.2%
Sun 26/May/2024	34,137	728	28,258	28,798	18.5%	21.1%	-1.9%

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

[2024 weeks compared to similar 2023 weeks]



Week 21 : Dispatchable Generation Energy Sent Out Statistics		
Energy Sent Out	3,906	GWh
Week-on-Week Growth	2.55	%
Year-on-Year Growth (Year-to-Date) Annual	1.93	%

Note:

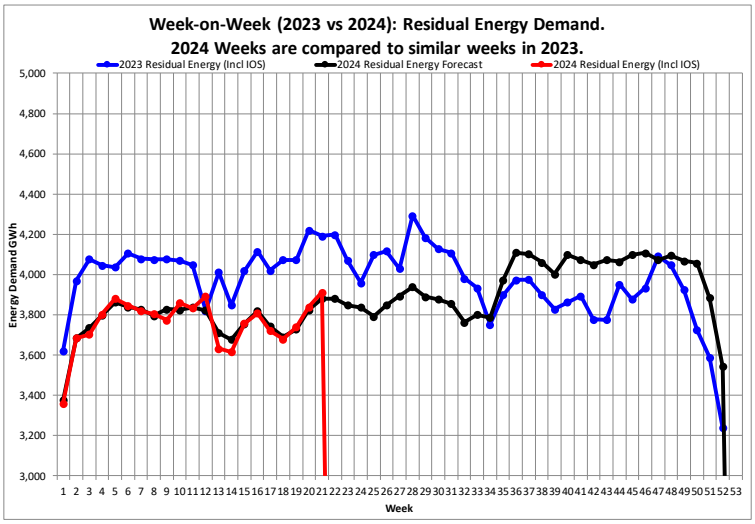
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Dispatchable Generation Energy Sent Out Statistics			
Year	**01 Jan to 26 May Energy**	**Annual Energy (01 Jan to 31 Dec)**	**Unit**
2019	87,392	219,574	GWh
2020	80,254	206,725	GWh
2021	83,640	210,021	GWh
2022	83,174	202,847	GWh
2023	74,395	190,434	GWh
2024 (YTD)	76,461		GWh

Week-on-Week Residual Energy Demand

[2024 weeks compared to similar 2023 weeks]



Week 21 : Residual Energy Demand Statistics		
Energy Demand	3,912	GWh
Week-on-Week Growth	-6.69	%
Year-on-Year Growth (Year-to-Date) Annual	-6.67	%

Note:

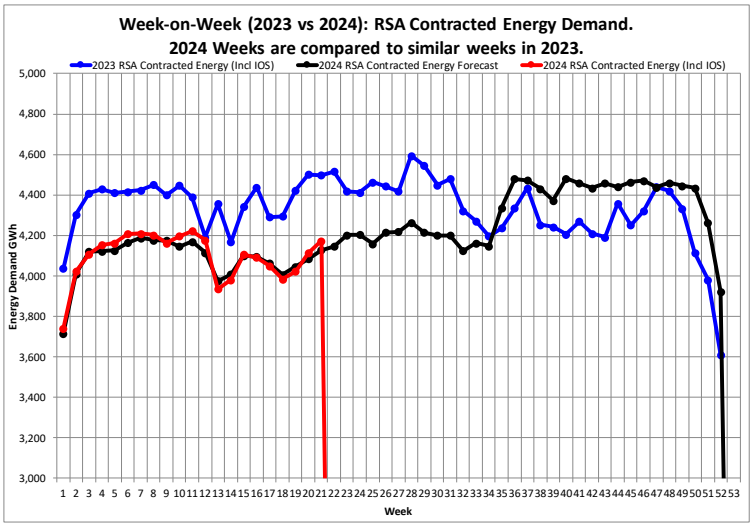
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Residual Energy Demand Statistics			
Year	**01 Jan to 26 May Energy**	**Annual Energy (01 Jan to 31 Dec)**	**Unit**
2019	88,073	220,936	GWh
2020	81,117	208,150	GWh
2021	84,329	211,957	GWh
2022	84,258	211,134	GWh
2023	83,930	207,190	GWh
2024 (YTD)	78,966		GWh

Week-on-Week RSA Contracted Energy Demand

[2024 weeks compared to similar 2023 weeks]



Week 21 : RSA Contracted Energy Demand Statistics		
Energy Demand	4,173	GWh
Week-on-Week Growth	-7.21	%
Year-on-Year Growth (Year-to-Date) Annual	-6.12	%

Note:

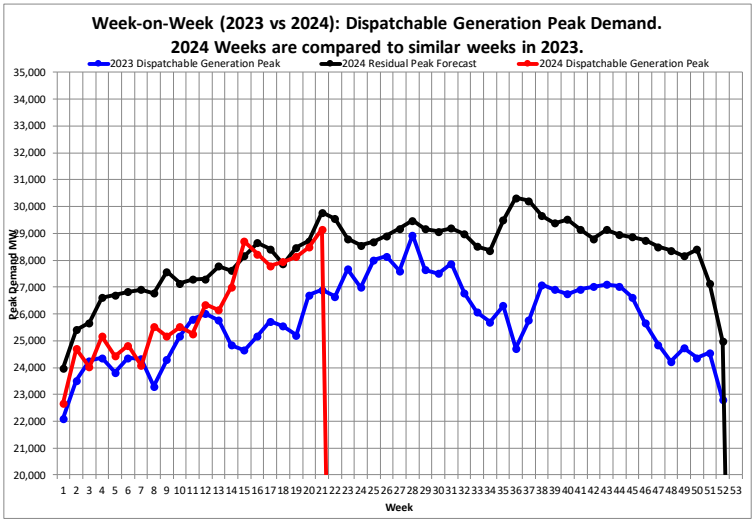
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual RSA Contracted Energy Demand Statistics			
Year	**01 Jan to 26 May Energy**	**Annual Energy (01 Jan to 31 Dec)**	**Unit**
2019	92,583	232,523	GWh
2020	85,574	220,629	GWh
2021	89,854	227,165	GWh
2022	90,183	227,337	GWh
2023	90,919	225,875	GWh
2024 (YTD)	86,021		GWh

Week-on-Week Dispatchable Generation Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 21 : Dispatchable Generation Peak Demand Statistics		
Peak Demand	29,147	MW
Week-on-Week Growth	8.38	%
Year-on-Year Growth (Year-to-Date) Annual	8.38	%

Note:

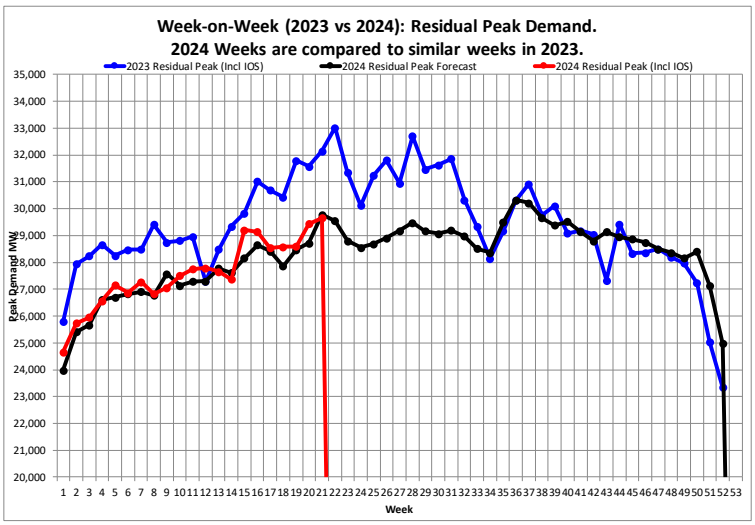
2024 Weeks are compared to similar weeks in 2023.

(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)	Wed 22-May-2024	29,147	MW

Week-on-Week Residual Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 21 : Residual Peak Demand Statistics		
Peak Demand	29,656	MW
Week-on-Week Growth	-7.76	%
Year-on-Year Growth (Year-to-Date) Annual	-7.76	%

Note:

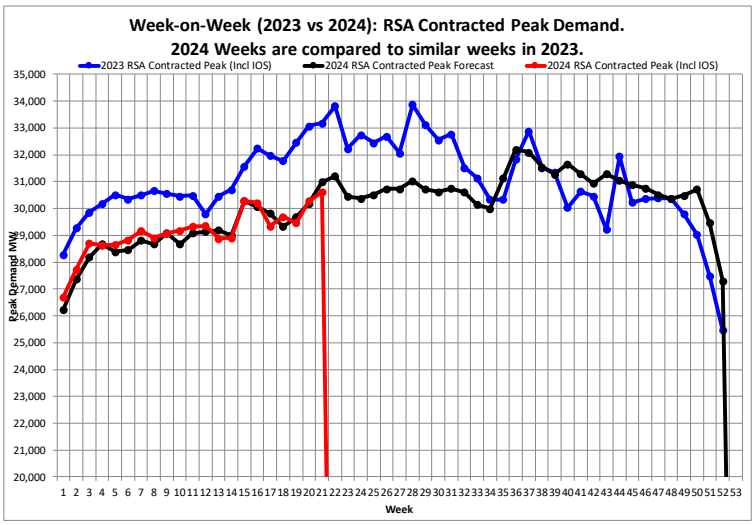
2024 Weeks are compared to similar weeks in 2023.

(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 22-May-2024	29,656	MW

Week-on-Week RSA Contracted Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 21 : RSA Contracted Peak Demand Statistics		
Peak Demand	30,615	MW
Week-on-Week Growth	-7.75	%
Year-on-Year Growth (Year-to-Date) Annual	-7.75	%

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 23-May-2024	30,615	MW

Weekly Generation Availability

	Week														Annual (Jan - Dec)	
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	2024	2023
Energy Availability Factor (Eskom EAF)	51.61	53.83	53.58	53.63	53.89	56.76	57.00	58.41	57.91	58.55	62.05	65.15	64.84	61.36	**55.94**	**54.69**
Planned Outage Factor	16.75	16.07	13.19	14.44	13.91	13.02	11.23	12.11	12.00	10.46	12.01	8.57	8.48	9.09	**13.71**	**10.90**
Unplanned Outage Factor	30.48	29.10	32.74	31.47	31.80	29.87	31.34	28.97	29.45	30.62	25.63	26.01	25.89	29.02	**29.61**	**33.08**
Other Outage Factor	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	0.53	**0.74**	**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 Senario (-18200 MW)
27-May-24	22	31207	29545	43955	27755	5236	14000		
03-Jun-24	23	30448	28800	43854	27654	5337	14000		
10-Jun-24	24	30373	28553	44471	28271	4720	14000		
17-Jun-24	25	30517	28697	45763	29563	3428	14000		
24-Jun-24	26	30733	28913	45133	28933	4058	14000		
01-Jul-24	27	30736	29180	46348	30148	2843	14000		
08-Jul-24	28	31031	29475	45873	29673	3318	14000		
15-Jul-24	29	30721	29166	45891	29691	3300	14000		
22-Jul-24	30	30621	29065	45615	29415	3576	14000		
29-Jul-24	31	30746	29190	46280	30080	2911	14000		
05-Aug-24	32	30607	28974	45662	29462	3529	14000		
12-Aug-24	33	30151	28519	45090	28890	4101	14000		
19-Aug-24	34	29999	28367	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		
02-Jun-25	23	33024	31205	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 Definitively 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 Maximum	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	578,785	2,157,610	4,343,378	7,162,244
Dec 2024	Total				

Maximum Difference between Consecutive Evening Peaks (MW) -		
Cal Year	Indicator	Total (Incl other REs)
All Time	Maximum	2,148
	Max Date	20-Apr-2023 to 21-Apr-2023
2016	Maximum	828
Dec 2016	Max Date	25-Dec-2016 to 26-Dec-2016
2017	Maximum	1,038
Dec 2017	Max Date	08-Dec-2017 to 09-Dec-2017
2018	Maximum	1,336
Dec 2018	Max Date	05-Dec-2018 to 06-Dec-2018
2019	Maximum	1,464
Dec 2019	Max Date	07-Dec-2019 to 08-Dec-2019
2020	Maximum	1,488
Dec 2020	Max Date	01-Dec-2020 to 02-Dec-2020
2021	Maximum	1,744
Dec 2021	Max Date	02-Dec-2021 to 03-Dec-2021
2022	Maximum	1,523
Dec 2022	Max Date	22-Dec-2022 to 23-Dec-2022
2023	Maximum	2,148
Dec 2023	Max Date	30-Dec-2023 to 31-Dec-2023
2024	Maximum	1,791
Dec 2024	Max Date	

Maximum proportion that Renewables contributed towards actual hourly energy		
Cal Year	Indicator	Total (Incl other REs)
All Time	Maximum	21.8%
	Max Date	20-Feb-2023 15:00
2016	Maximum	9.8%
Dec 2016	Max Date	23-Dec-2016 13:00
2017	Maximum	12.7%
Dec 2017	Max Date	25-Dec-2017 15:00
2018	Maximum	13.1%
Dec 2018	Max Date	01-Dec-2018 12:00
2019	Maximum	13.9%
Dec 2019	Max Date	14-Dec-2019 14:00
2020	Maximum	16.1%
Dec 2020	Max Date	27-Dec-2020 15:00
2021	Maximum	19.1%
Dec 2021	Max Date	15-Dec-2021 13:00
2022	Maximum	19.3%
Dec 2022	Max Date	29-Dec-2022 14:00
2023	Maximum	21.8%
Dec 2023	Max Date	22-Dec-2023 12:00
2024	Maximum	19.8%
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.