Weekly System Status Report – 2024 Week 41 (07/10/2024 – 13/10/2024)

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.

Disclaimer

The Data published here is for information purposes only. The content is subject to verification and validation. Eskom shall not be held responsible for any errors or it being misleading or incomplete and accepts no liability whatsoever for any loss, damages, or expenses, howsoever, incurred or suffered, resulting, or arising, from the use of this Data or any reliance placed on it.

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 07/Oct/2024	29,971	0	28,028	26,281	14.0%	14.0%	6.6%
Tue 08/Oct/2024	31,041	0	28,808	27,400	13.3%	13.3%	5.1%
Wed 09/Oct/2024	30,000	0	27,811	27,481	9.2%	9.2%	1.2%
Thu 10/Oct/2024	29,757	0	27,428	27,021	10.1%	10.1%	1.5%
Fri 11/Oct/2024	29,226	0	27,018	26,632	9.7%	9.7%	1.4%
Sat 12/Oct/2024	28,956	0	25,015	24,917	16.2%	16.2%	0.4%
Sun 13/Oct/2024	29,549	0	25,166	24,921	18.6%	18.6%	1.0%

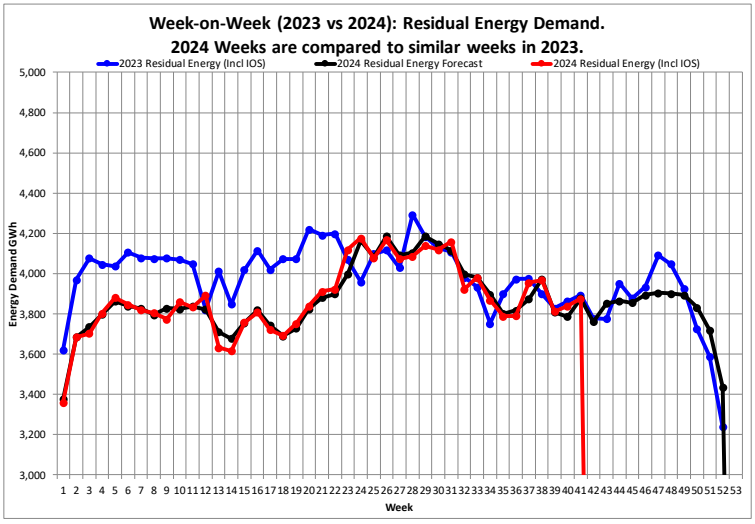
Date	Total Available Generation Incl Renewables (MW)	Non-commercial Generation (MW)	RSA Contracted Load Forecast (MW)	Actual RSA Contracted Demand (MW) Incl IOS	Operating Reserve Margin (Excl Non-Commercial Units)	Operating Reserve Margin (Incl Non-Commercial Units)	Forecast vs. Actual (RSA Contracted Demand)
Mon 07/Oct/2024	32,558	0	29,725	28,868	12.8%	12.8%	3.0%
Tue 08/Oct/2024	33,056	0	30,845	29,415	12.4%	12.4%	4.9%
Wed 09/Oct/2024	32,020	0	29,436	28,748	11.4%	11.4%	2.4%
Thu 10/Oct/2024	31,540	0	29,321	28,804	9.5%	9.5%	1.8%
Fri 11/Oct/2024	30,442	0	28,581	27,849	9.3%	9.3%	2.6%
Sat 12/Oct/2024	30,866	0	26,495	26,827	15.1%	15.1%	-1.2%
Sun 13/Oct/2024	31,906	0	27,455	27,279	17.0%	17.0%	0.6%

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) = 49 389 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 41 : Residual Energy Demand Statistics		
Energy Demand	3,876	GWh
Week-on-Week Growth	-0.46	%
Year-on-Year Growth (Year-to-Date) Annual	-3.62	%

Note:

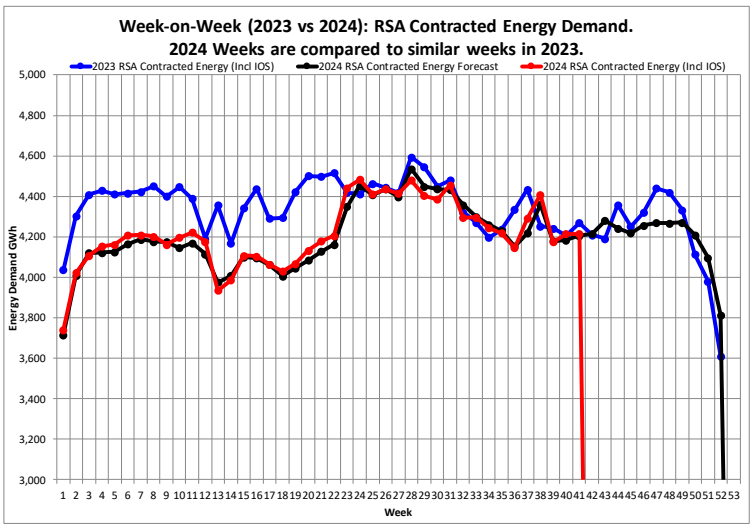
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual Residual Energy Demand Statistics			
Year	01 Jan to 13 Oct Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	174,211	220,936	GWh
2020	163,792	208,150	GWh
2021	167,996	211,957	GWh
2022	167,192	211,134	GWh
2023	164,223	207,190	GWh
2024 (YTD)	158,830		GWh

Week-on-Week Residual Energy Demand

[2024 weeks compared to similar 2023 weeks]



Week 41 : RSA Contracted Energy Demand Statistics		
Energy Demand	4,216	GWh
Week-on-Week Growth	-1.25	%
Year-on-Year Growth (Year-to-Date) Annual	-3.54	%

Note:

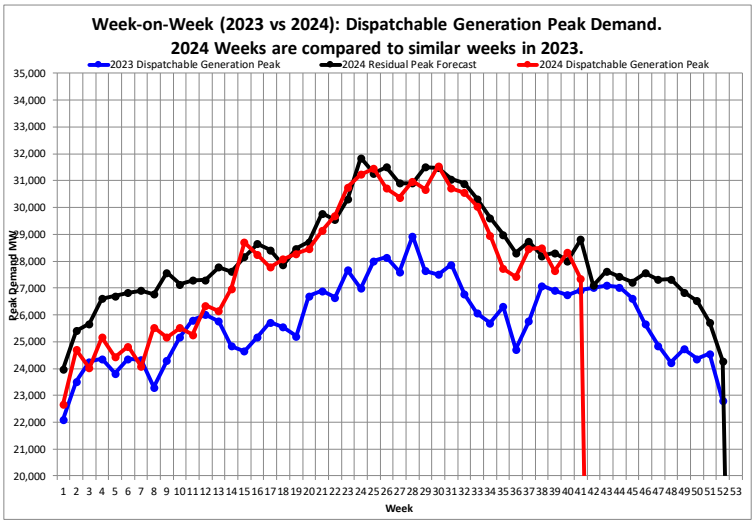
2024 Weeks are compared to similar weeks in 2023.

(2024 week 1 ~ 2023 week 1)

Annual RSA Contracted Energy Demand Statistics			
Year	01 Jan to 13 Oct Energy	Annual Energy (01 Jan to 31 Dec)	Unit
2019	182,987	232,523	GWh
2020	172,924	220,629	GWh
2021	179,364	227,165	GWh
2022	179,321	227,337	GWh
2023	178,489	225,875	GWh
2024 (YTD)	172,796		GWh

Week-on-Week RSA Contracted Energy Demand

[2024 weeks compared to similar 2023 weeks]



Week 41 : Dispatchable Generation Peak Demand Statistics		
Peak Demand	27,345	MW
Week-on-Week Growth	1.59	%
Year-on-Year Growth (Year-to-Date) Annual	9.02	%

Note:

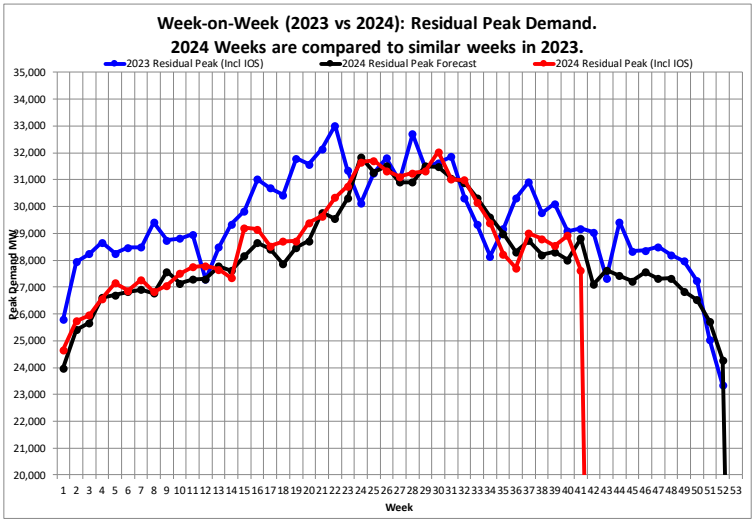
2024 Weeks are compared to similar weeks in 2023.

(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 22-Jul-2024	31,547	MW

Week-on-Week Dispatchable Generation Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 41 : Residual Peak Demand Statistics		
Peak Demand	27,629	MW
Week-on-Week Growth	-5.31	%
Year-on-Year Growth (Year-to-Date) Annual	-2.94	%

Note:

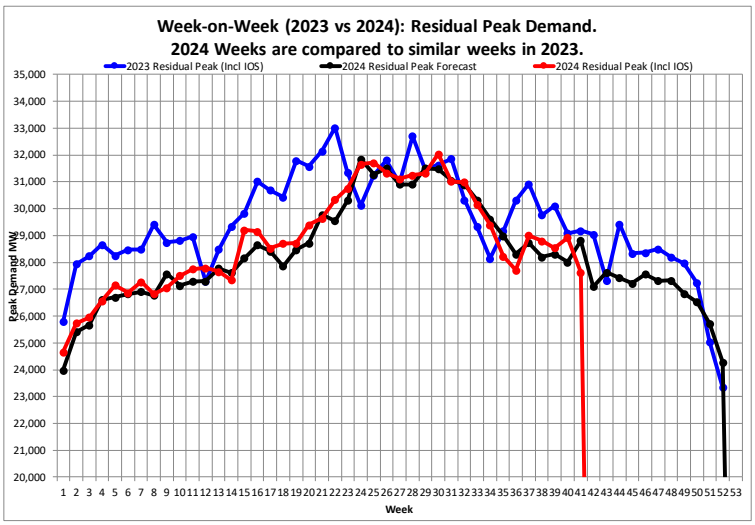
2024 Weeks are compared to similar weeks in 2023.

(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)	Mon 22-Jul-2024	32,043	MW

Week-on-Week Residual Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 41 : Residual Peak Demand Statistics		
Peak Demand	27,629	MW
Week-on-Week Growth	-5.31	%
Year-on-Year Growth (Year-to-Date) Annual	-2.94	%

Note:

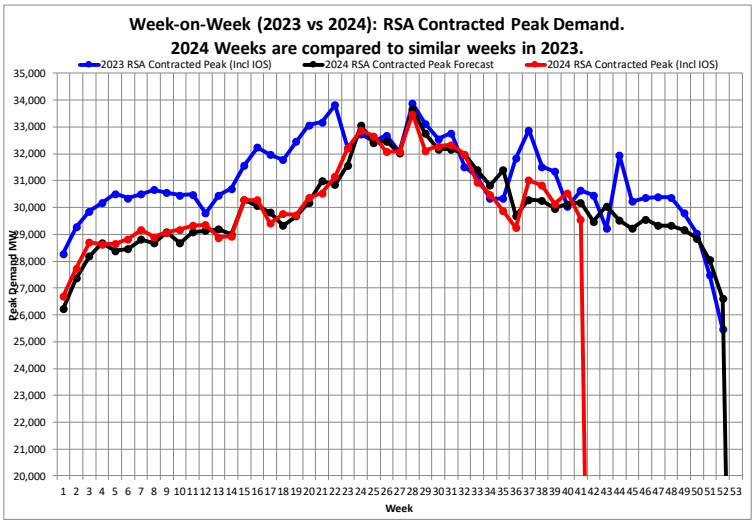
2024 Weeks are compared to similar weeks in 2023.

(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)	Mon 22-Jul-2024	32,043	MW

Week-on-Week RSA Contracted Peak Demand

[2024 weeks compared to similar 2023 weeks]



Week 41 : RSA Contracted Peak Demand Statistics		
Peak Demand	29,564	MW
Week-on-Week Growth	-3.51	%
Year-on-Year Growth (Year-to-Date) Annual	-1.14	%

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 09-Jul-2024	33,485	MW

Weekly Generation Availability

	Week														Annual (Jan - Dec)	
	28	29	30	31	32	33	34	35	36	37	38	39	40	41	2024	2023
Energy Availability Factor (Eskom EAF)	65.30	67.20	70.34	69.29	64.88	66.00	67.57	65.14	66.11	59.29	60.63	58.01	62.39	59.66	**59.71**	**54.68**
Planned Outage Factor	8.35	8.26	8.53	9.07	11.27	9.98	9.19	12.55	11.68	13.50	13.16	15.45	14.04	12.14	**12.56**	**10.90**
Unplanned Outage Factor	25.85	23.96	20.37	21.35	23.36	23.66	22.89	22.01	22.03	26.58	25.88	26.17	23.26	27.76	**27.10**	**33.09**
Other Outage Factor	0.50	0.58	0.76	0.29	0.49	0.36	0.35	0.30	0.18	0.63	0.33	0.37	0.31	0.44	**0.63**	**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 (-15200 MW)	MW Likely Risk Senario (-17200 MW)
14-Oct-24	42	29476	27092	43916	28716	5473	13000		
21-Oct-24	43	30050	27625	42889	27689	6500	13000		
28-Oct-24	44	29519	27420	43461	28261	5928	13000		
04-Nov-24	45	29223	27214	44383	29183	5006	13000		
11-Nov-24	46	29565	27556	42835	27635	6554	13000		
18-Nov-24	47	29326	27318	42306	27106	7083	13000		
25-Nov-24	48	29335	27327	42834	27634	6555	13000		
02-Dec-24	49	29164	26837	42446	27246	6943	13000		
09-Dec-24	50	28854	26528	41536	26336	7853	13000		
16-Dec-24	51	28049	25722	41671	26471	7718	13000		
23-Dec-24	52	26601	24274	41671	26471	7718	13000		
30-Dec-24	1	26225	23992	41081	25881	8308	13000		
06-Jan-25	2	28353	26120	42765	27565	6624	13000		
13-Jan-25	3	30006	27773	42575	27375	6814	13000		
20-Jan-25	4	30111	27878	43822	28622	5567	13000		
27-Jan-25	5	30338	28105	42784	27584	6605	13000		
03-Feb-25	6	30275	28153	42951	27751	6438	13000		
10-Feb-25	7	30453	28331	42684	27484	6705	13000		
17-Feb-25	8	30607	28486	42854	27654	6535	13000		
24-Feb-25	9	30504	28382	43395	28195	5994	13000		
03-Mar-25	10	30359	28547	42881	27681	6508	13000		
10-Mar-25	11	30779	28967	43263	28063	6126	13000		
17-Mar-25	12	30715	28808	43263	28063	6126	13000		
24-Mar-25	13	30578	28744	43091	27891	6298	13000		
31-Mar-25	14	30504	28778	42596	27396	6793	13000		
07-Apr-25	15	30981	29254	42786	27586	6603	13000		
14-Apr-25	16	31342	29616	42638	27438	6751	13000		
21-Apr-25	17	32093	30366	43448	28248	5941	13000		
28-Apr-25	18	31446	29719	44508	29308	4881	13000		
05-May-25	19	32738	31338	44893	29693	4496	13000		
12-May-25	20	33277	31878	45719	30519	3670	13000		
19-May-25	21	34328	32929	45909	30709	3480	13000		
26-May-25	22	34432	33033	45909	30709	3480	13000		
02-Jun-25	23	32403	31205	45254	30054	4135	13000		
09-Jun-25	24	32620	31422	44445	29245	4944	13000		
16-Jun-25	25	32560	31362	44912	29712	4477	13000		
23-Jun-25	26	32971	31773	45664	30464	3725	13000		
30-Jun-25	27	33174	31742	45812	30612	3577	13000		
07-Jul-25	28	33039	31607	44517	29317	4872	13000		
14-Jul-25	29	33049	31617	44784	29584	4605	13000		
21-Jul-25	30	32710	31278	44349	29149	5040	13000		
28-Jul-25	31	32192	30760	44612	29412	4777	13000		
04-Aug-25	32	31900	30155	43792	28592	5597	13000		
11-Aug-25	33	31384	29639	44266	29066	5123	13000		
18-Aug-25	34	30763	29019	44538	29338	4851	13000		
25-Aug-25	35	30331	28628	43898	28698	5491	13000		
01-Sep-25	36	31273	29283	43248	28048	6141	13000		
08-Sep-25	37	31382	29393	44365	29165	5024	13000		
15-Sep-25	38	31316	29327	43583	28383	5806	13000		
22-Sep-25	39	31563	29573	43948	28748	5441	13000		
29-Sep-25	40	31395	29405	42963	27763	6426	13000		
06-Oct-25	41	30986	28839	42158	26958	7231	13000		
13-Oct-25	42	30803	28656	42158	26958	7231	13000		
20-Oct-25	43	30667	28569	42283	27083	7106	13000		

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): 13 000 MW
Reserves: OR + UA = 15 200 MW
Eskom Installed Capacity: 48 234 MW.
Installed Dispatchable Capacity: 49 389 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*	6,141.4

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
	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	501.3	2,111.7	3,049.9	4,995.7
	Max Date	06-Mar-2024 10:00	10-Feb-2024 12:00	15-Feb-2024 18:00	15-Feb-2024 15:00

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 Maximum	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
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	5,014,845	11,613,364	18,241,202
2024	Total Energy	947,932	4,038,257	9,055,233	14,238,892

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	2,573
	Max Date	12-Aug-2024 to 13-Aug-2024
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	2,573
	Max Date	12-Aug-2024 to 13-Aug-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	19.8%
	Max Date	15-Feb-2024 15:00

Estimated Rooftop PV

Maximum/Installed Rooftop PV (MW):	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	Northern Cape	North-West	Western Cape	Total
Sep-24	368.2	319.2	1,798.80	810.9	413.3	704.9	334.9	681.2	710.1	6,141.40
Aug-24	368.2	319.2	1,798.80	810.9	413.3	516.1	334.9	681.2	710.1	5,952.60
Jul-24	368.2	319.2	1,798.80	810.9	413.3	516.1	334.9	681.2	710.1	5,952.60
Jun-24	368.2	319.2	1,636.80	810.9	413.3	516.1	334.9	681.2	710.1	5,790.50
May-24	368.2	319.2	1,503.70	810.9	413.3	516.1	310.4	681.2	642.4	5,565.30
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	1503.7	810.9	413.3	516.1	208.4	669.3	642.4	5,412.30
Dec-23	368.2	280.2	1295	810.9	413.3	516.1	208.4	669.3	642.4	5,203.70
Nov-23	368.2	280.2	1216.6	810.9	413.3	509.3	129.5	669.3	642.4	5,039.60
Oct-23	368.2	280.2	1207.8	810.9	413.3	509.3	129.5	669.3	616.8	5,005.00
Sep-23	368.2	280.2	1207.8	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.

*Rooftop PV includes ground-mounted as well as all other PV installations that do not have contracts with NTCSA.