

Statement in support of application for merger authorisation

Annexure 'LE-4'

**PROPOSED ACQUISITION BY BROOKFIELD LP AND MIDOCEAN ENERGY OF ORIGIN
ENERGY LIMITED**

Statement of: **Luke David Edwards**

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Occupation: Managing Director, Brookfield Asset Management

Date: 5 June 2023

SUMMARY

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7	Summary											
8	Metrics	Start Date	Capacity at Start (GW)	End Date	Capacity at End (GW)	Difference (GW)	Years	Avg. GW per year				
9	Historical Developments over the last 10 years	Aug 2013	10.1	May 2023	27.5	17.3	10	1.7				
10	Historical Developments over the last 7 years	Aug 2016	11.9	May 2023	27.5	15.5	7	2.2				
11	Historical Developments over the last 5 years	Jul 2018	14.2	May 2023	27.5	13.3	5	2.7				
12	Historical Developments over the last 2 years	May 2021	22.3	May 2023	27.5	5.2	2	2.6				
13	Historical Developments over the last year	May 2022	24.6	May 2023	27.5	2.9	1	2.9				
14	Required developments to 2030	May 2023	27.5	Jun 2030	56.9	29.4	7	4.2				
15												
16	Historical Renewables Installed (MW)		Aug 2013	Aug 2016	Jul 2018	May 2021	May 2022	May 2023				
17	Large Scale Wind	MW	2,574	3,708	5,114	8,815	10,055	10,300				
18	Large Scale Solar	MW	-	232	960	5,203	5,901	8,425				
19	Large Scale Storage / Hydro	MW	7,569	7,988	8,121	8,253	8,612	8,745				
20	Installed Large Scale Renewables	MW	10,143	11,927	14,195	22,271	24,567	27,471				
21	Primary Source		AEMO NEM Generation (Aug-2013)	AEMO NEM Generation (Aug-2016)	AEMO NEM Generation (Jul-2018)	AEMO NEM Generation (May 2021)	AEMO NEM Generation (May 2022)	NEM Generation Information - May 2023				
22	Secondary Source		State of the Energy Market 2013		State of the Energy Market 2018							
23												
24	Renewable Generation Required		Large Scale Solar	Large Scale Wind	Large Scale Storage / Hydro	Total	Total Capacity (Existing, May-23)		% Renewables			
25	FY30 Forecast (AEMO 2022 ISP)	MW	12,204	31,523	13,142	56,870	62,909		43.7%			
26	Current (May-23, AEMO NEM Generation)	MW	8,425	10,300	8,745	27,471						
27	Additional Renewables by 2030	MW	3,779	21,223	4,397	29,399						
28												
29	Years to FY30 (Jun-30)	Years	7	7	7	7						
30	Additional Renewables p.a. to 2030	MW p.a.	540	3,032	628	4,200						
31												
32	2.0 Coal-fired generation											
33												
34	Coal Retirements (Datapoints)											
35	Announced (State of the Energy Market 2022)	GW	8									
36	AEMO 2022 ISP Forecast Coal Retirement	GW	14									
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65	END											

2.6.1 Coal-fired generation

Coal-fired generators burn coal to create pressurised steam, which is then forced through a turbine at high pressure to drive a generator (Figure 2.17). Coal-fired generation remains the dominant supply technology in the NEM, producing over two-thirds of all electricity traded through the market in 2021.

Coal plants operate in Queensland, NSW and Victoria. Generators in Queensland and NSW burn black coal, and generators in Victoria depend on brown coal. Black coal produces more energy than brown coal because it has lower water content and produces 30-40% fewer greenhouse gas emissions when used to generate electricity. However, Victorian brown coal is among the lowest cost coal in the world, because the Gippsland region has abundant reserves in thick seams close to the earth's surface.

Coal-fired generators can require a day or more to activate, but their operating costs are low. Once switched on, coal plants tend to operate continuously. For this reason, coal-fired generators usually bid a portion of their capacity into the NEM at low prices to guarantee dispatch and keep their plant running. Aside from providing relatively low-cost electricity to the market, coal-fired generators also help maintain power system stability.²⁶

Impacts of solar generation on coal-fired plant

The rapid influx of grid and rooftop solar over the past 3 years has changed the shape of wholesale electricity prices and demand for baseload (coal) generation during the day. These changing conditions, backed by the global investor and local push to decarbonise, are compromising the economic viability of the NEM's 16 remaining coal-fired power stations. As fossil fuel dependent energy companies pivot toward renewable energy, many of these coal-fired power stations are slated to close earlier than previously announced. Five coal-fired power plants are currently due to close by 2030.

While around 8 GW of the current 23 GW of coal-fired capacity has already been announced to withdraw by 2030, AEMO's most recent integrated system plan (ISP) suggests this number will be closer to 14 GW. That is, it expects 60% of current coal-fired capacity will withdraw by 2030.²⁷

The next to exit is Liddell power station in NSW. In April 2022, AGL Energy retired the first Liddell unit, removing 500 MW of black coal generation. The remaining units will be retired in 2023, removing a further 1,500 MW of black coal capacity from the NEM.

This will be followed by the closure of Eraring – Australia's largest power station. In February 2022, Origin Energy announced it would potentially bring forward the retirement of the Eraring black coal power station in NSW by 7 years, from 2032 to 2025.²⁸

EnergyAustralia also announced in 2021 that it will retire its Yallourn power station in Victoria in 2028, 4 years earlier than planned. Callide B power station is also expected to close that year and Vales Point B power station is expected to close the following year in 2029. Early in 2022, AGL announced the accelerated closure of its remaining coal-fired power stations of Bayswater (2030-2033) and Loy Yang A (2040-2045).²⁹

The economics and operating capability of coal-fired generators have been challenged by the impact of rooftop solar in particular. When rooftop solar generation is high in the middle of the day, the demand for electricity from the grid falls significantly. If demand drops below the minimum technical operating levels of coal plants, which are not engineered to run at low levels of output, plant operations may be significantly disrupted. Options include shutting some generating units from mid-morning before firing them back up in the evening. The ability of generators to operate more flexibly depends on plant age and condition. The increased cycling of output compounds stress on equipment, potentially requiring more frequent maintenance (planned outages) or, as we are seeing more frequently, earlier retirement.

No further investment in new coal plant is proposed for the NEM.

²⁶ Synchronous generators – including hydroelectric and thermal plant such as coal, gas and solar thermal generators – contain heavy spinning rotors that provide synchronous inertia, slowing down the rate of change of frequency. They also help with voltage control by producing and absorbing reactive power, and they provide high fault current that improves system strength.

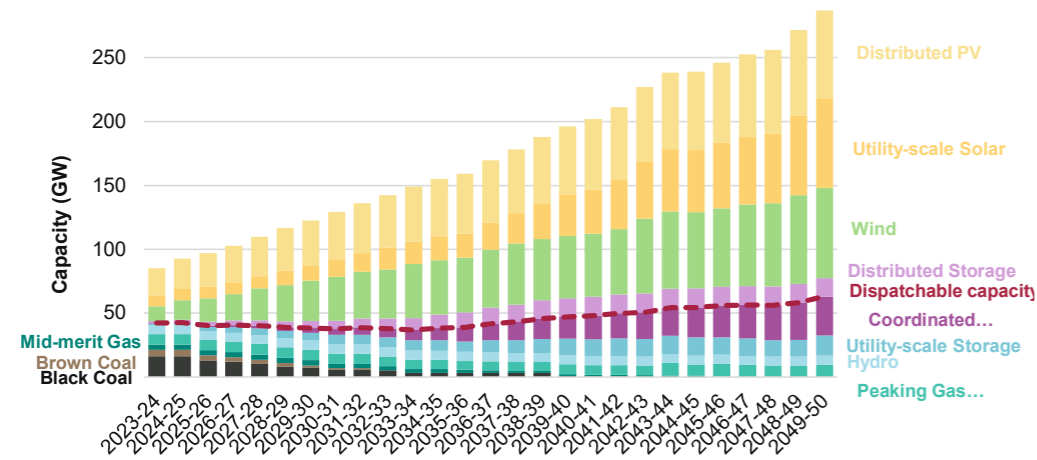
²⁷ AEMO, 2022 Integrated system plan, June 2022.

²⁸ Origin Energy, Origin proposes to accelerate exit from coal-fired generation, February 2022.

²⁹ Department of Industry, Statement on early closure of Loy Yang A and Bayswater power stations, February 2022.

AEMO 2022 ISP Chart Data Figure 1

Figure 1 Forecast NEM capacity to 2050, Step Change scenario



Financial Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34
Black Coal	16,456	16,456	12,876	12,176	10,156	8,277	7,312	5,912	5,912	5,182	3,082
Brown Coal	4,820	4,820	4,135	3,385	3,385	2,825	1,720	1,160	1,160	0	0
Mid-merit Gas	4,075	4,075	4,075	4,075	4,075	4,075	4,075	3,367	3,367	3,367	3,367
Peaking Gas & Liquids	8,255	8,255	8,255	8,255	8,255	8,255	8,255	7,873	7,873	7,633	7,171
Hydro	6,818	6,818	6,818	6,818	6,818	6,818	7,208	7,208	7,208	7,208	7,208
Utility-scale Storage	1,559	1,557	3,087	4,447	5,374	5,859	5,934	7,462	7,462	7,713	7,959
Coordinated DER Storage	319	623	1,035	1,539	2,143	2,808	3,819	4,727	5,655	6,747	8,087
Distributed Storage	1,533	2,364	3,139	3,800	4,363	4,766	5,453	6,404	7,275	8,209	9,366
Offshore Wind	0	0	0	0	0	0	0	0	0	0	0
Wind	11,525	15,164	18,419	20,462	24,875	28,335	31,523	34,415	36,531	38,112	42,069
Utility-scale Solar	8,436	8,804	8,804	9,275	9,464	11,532	12,204	13,572	14,510	17,193	17,754
Distributed PV	21,305	23,784	26,308	28,683	30,997	33,056	35,131	37,225	39,139	41,092	43,056
Dispatchable Capacity	42,302	42,605	40,282	40,696	40,206	38,917	38,323	37,709	38,637	37,850	36,875

<https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp>

Capacity % in FY30	MW	Total MW	% of Capacity
Large Scale	56,870	122,635	46%
Large Scale + Distributed Generation / Storage	101,273	122,635	83%
Coal Capacity in FY30	9,032	122,635	7%

Generation % in FY30 (Figure 16 ISP 2022) **79.0%** *Step Change*

2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2047-48	2048-49	2049-50	2050-51
3,082	3,082	3,082	3,082	3,082	852	426	426	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3,367	2,567	2,182	1,653	1,653	1,509	1,509	1,509	1,509	1,069	1,069	244	0	0	0	0	0
7,054	6,974	7,130	7,130	7,130	7,550	7,430	7,430	7,524	9,923	8,764	10,236	9,533	8,949	8,949	9,640	9,403
7,208	7,208	7,208	7,122	7,122	7,122	7,122	7,122	7,056	7,056	7,056	7,056	7,056	7,056	7,056	7,056	7,056
8,080	8,079	9,403	9,847	10,811	12,887	13,060	13,621	13,621	14,203	14,205	13,603	13,603	12,678	13,236	15,778	14,476
9,572	11,104	12,714	14,323	15,932	17,221	18,488	19,656	20,868	22,108	23,415	24,745	26,156	27,585	29,101	30,637	30,721
10,518	11,617	12,616	13,522	14,246	14,595	14,783	14,855	14,851	14,859	14,817	14,787	14,710	14,647	14,542	14,447	14,447
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42,697	42,931	45,376	47,791	47,986	48,713	49,469	51,322	58,456	60,500	59,823	61,421	63,950	65,228	69,624	70,473	69,703
18,705	18,709	21,551	23,756	28,142	32,292	34,685	38,785	44,916	48,856	48,505	51,414	53,388	54,362	62,002	70,250	69,598
44,974	46,777	48,456	50,097	51,732	53,368	54,992	56,591	58,158	59,722	61,252	62,750	64,228	65,692	67,157	68,593	68,593
38,363	39,014	41,719	43,157	45,730	47,139	48,034	49,763	50,576	54,357	54,508	55,883	56,347	56,267	58,342	63,111	61,656

Historical and Forecast Renewable Development
NEM.Gen.May23.Summary

1.0 Summary

Renewable Generation Required		Large Scale Solar	Large Scale Wind	Hydro	Total
Current (May-23, AEMO NEM Generation)	MW	8,425	10,300	8,745	27,471

2.0 Hydro

May-23		Check	Status	Tech
Total Water Projects	MW	7,988	-	ting less Announced Withdr Water

Breakdown

Storage - Pumped hydro	MW	811	
Hydro - Dam	MW	7,012	
Hydro - Run of River	MW	161	
Hydro - Other	MW	3	Check
Total	MW	7,988	-

Hydro (excl. PHES)

Total	MW	7,988
Less: PHES	MW	(811)
Total Hydro Generation	MW	7,176

END

Summary

This sheet includes a Summary Chart and Table of the data within this file.

NEM Generation Information - May 2023

Disclaimer

This document is subject to an important disclaimer that limits or excludes AEMO's liability.

Please read the full disclaimer at

<https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

Region

NEM

Dispatch Type

S, SS & NS

Summary Chart: NEM Scheduled, Semi-scheduled & Non-scheduled Generation (MW) - Existing and New Developments by Fuel-Technology Category

Summary Table: NEM Scheduled, Semi-scheduled & Non-scheduled Generation (MW) - Existing and New Developments by Fuel-Technology Category

Summary Status	Fuel - Technology Category											
	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Battery Storage	Other	Total	
Existing	22,755	2,985	6,994	1,978	8,425	10,300	7,988	512	758	214	62,909	36.2%
Announced Withdrawal	4,380	-	-	800	-	-	-	-	-	-	5,180	
Existing less Announced Withdrawal	18,375	2,985	6,994	1,178	8,425	10,300	7,988	512	758	214	57,729	
Upgrade / Expansion	45	-	-	-	-	-	-	-	-	-	45	
Committed	-	-	1,070	-	1,489	2,297	2,290	-	798	-	7,944	
Anticipated	-	-	-	-	925	1,988	-	-	3,338	-	6,250	
Proposed	990	207	2,464	1,952	38,690	114,467	17,113	333	41,188	884	218,288	
Withdrawn	-	-	-	121	-	-	-	4	-	-	125	

Notes:

"Existing" summary status includes "Announced Withdrawal".

"Committed" summary status includes "Committed".

"Solar*" Fuel-Technology category excludes Rooftop PV installations.

Projects with "TBA" Dispatch Type are not included in the Summary Table.

Projects with "Confidential" FuelBucketSummary are not included in the Summary Table.

<https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

Existing Generation and New Developments

Region	Asset Type	Site Name	Owner	Technology Type	Fuel Type	DUID	Number of Units	Lower Nameplate Capacity (MW)	Upper Nameplate Capacity (MW)	Aggregated Lower Nameplate Capacity (MW)	Aggregated Upper Nameplate Capacity (MW)	Nameplate Capacity (MW)	Storage Capacity (MWh)	Unit Status	Dispatch Type	Full Commercial Use Date	Expected Closure Year	Closure Date	Status Bucket Summary	Fuel Bucket Summary	SurveyId	AEMO KCI Id	Survey Last Requested	Survey Version Date/Time
NSW1	Project	Amidale Pumped Hydro	UPC Renewables	Storage - Pumped hydro	Hydro - Water		1		600		600	600		Publicly Announced	S				Proposed	Water	2,062		Apr 2023	20-09-2022
VIC1	Existing Plant	Barimboola	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	BAPS	10		10		10	10		In Service	NS		2057		Existing less Announced Withdrawal	Water	1,008		Mar 2022	22-03-2023
SA1	Project	Baroota Pumped Hydro Project	ACEN Renewables	Storage - Pumped hydro	Hydro - Water		2	125	125	250	250	250		Publicly Announced	S	Jun 2026			Proposed	Water	1,682		Apr 2023	10-03-2023
QLD1	Existing Plant	Barron Gorge	CleanCo Queensland Limited	Hydro - Run of River	Hydro - Water	BARRON-1	1		33		33	33		In Service	S				Existing less Announced Withdrawal	Water	1,012		Apr 2023	23-03-2023
QLD1	Existing Plant	Barron Gorge	CleanCo Queensland Limited	Hydro - Run of River	Hydro - Water	BARRON-2	1		33		33	33		In Service	S				Existing less Announced Withdrawal	Water	1,012		Apr 2023	23-03-2023
TAS1	Existing Plant	Bastyan	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	BASTYAN	1		79.90		79.90	79.90		In Service	S				Existing less Announced Withdrawal	Water	1,013		Apr 2023	28-03-2023
TAS1	Project	Battery of the Nation - Stage 2b	Hydro Tasmania	Storage - Pumped hydro	Hydro - Water		4	187.50	187.50	750	750	12,000		Publicly Announced	S				Proposed	Water	1,480		Apr 2023	28-03-2023
TAS1	Project	Battery of the Nation - Stage 3b	Hydro Tasmania	Storage - Pumped hydro	Hydro - Water		4	187.50	187.50	750	750	12,000		Publicly Announced	S				Proposed	Water	1,482		Apr 2023	30-03-2023
QLD1	Project	BE Power	BE Power	Storage - Pumped hydro	Hydro - Water		1		400		400	400	4,000	Publicly Announced	S				Proposed	Water	1,968	Q00051	Apr 2023	28-04-2022
NSW1	Existing Plant	Blowering	Snowy Hydro Ltd	Hydro - Dam	Hydro - Water		1	80	80	80	80			In Service	S			2070	Existing less Announced Withdrawal	Water	1,021		Apr 2023	24-03-2023
VIC1	Existing Plant	Bogong / Mackay	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	MCKAY1	6		26.67		160.02	160.02		In Service	S			2057	Existing less Announced Withdrawal	Water	1,023		Apr 2023	22-03-2023
VIC1	Existing Plant	Boronia Mini Hydro	TBA	Hydro - Dam	Hydro - Water		1		0.11		0.11	0.11		In Service	NS				Existing less Announced Withdrawal	Water	2,074		Apr 2023	25-09-2022
QLD1	Project	Boronia	Queensland Hydro	Storage - Pumped hydro	Hydro - Water		6	333	333	1,998	1,998	1,998	48,000	Publicly Announced	S	Jun 2030			Proposed	Water	1,921		Apr 2023	21-03-2023
QLD1	Project	Bowen PHES - KCI	Blue Hydro Project Pty Ltd	Hydro - Dam	Hydro - Water		1	750	750	750	750	750		Publicly Announced	TBA				Proposed	Water	2,292	Q00055	Apr 2023	03-01-2023
NSW1	Existing Plant	Brown Mountain Hydro Power Station	Cochrane Dam Pty Ltd	Hydro - Dam	Hydro - Water	BROWNMT	1		5		5	5		In Service	NS				Existing less Announced Withdrawal	Water	2,076		Apr 2023	26-09-2022
QLD1	Project	Bunkers Hill Pumped Hydro	Pacific Hydro	Storage - Pumped hydro	Hydro - Water		1	250	250	250	250	250		Publicly Announced	S				Proposed	Water	2,483	Q00071	Apr 2023	20-04-2023
NSW1	Existing Plant	Burrandong	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	BDONGHYD	1		19		19	19		In Service	NS			2036	Existing less Announced Withdrawal	Water	1,032		Mar 2022	22-03-2023
NSW1	Existing Plant	Burrinjuck	GSP Energy Pty Ltd	Hydro - Dam	Hydro - Water	BURRIN	2	5.60	7	11.20	14	11.20 - 14.00		In Service	NS			2060	Existing less Announced Withdrawal	Water	1,033		Sep 2022	26-09-2022
NSW1	Existing Plant	Burrinjuck	GSP Energy Pty Ltd	Hydro - Dam	Hydro - Water	BURRIN	1	16	20	16	20	16.00 - 20.00		In Service	NS			2060	Existing less Announced Withdrawal	Water	1,033		Sep 2022	26-09-2022
TAS1	Existing Plant	Butlers Gorge	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	BUTLERSG	1	12.20	12.20	12.20	12.20	12.20		In Service	NS			2100	Existing less Announced Withdrawal	Water	1,034		Mar 2022	19-04-2022
TAS1	Existing Plant	Butlers Gorge	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	BUTLERSG	1	2.20	2.20	2.20	2.20	2.20		In Service	NS			2100	Existing less Announced Withdrawal	Water	1,034		Mar 2022	19-04-2022
VIC1	Existing Plant	Cardinia Creek Mini-Hydro	TBA	Hydro - Dam	Hydro - Water		1		0.09		0.09	0.09		In Service	NS				Existing less Announced Withdrawal	Water	2,078		Apr 2023	26-09-2022
TAS1	Existing Plant	Catagunya / Liapootah / Wayatinah	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	LL_WY_CA	3	12.80	12.80	38.40	38.40	38.40		In Service	S			2100	Existing less Announced Withdrawal	Water	1,041		Apr 2023	28-03-2023
TAS1	Existing Plant	Catagunya / Liapootah / Wayatinah	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	LL_WY_CA	2	27.90	27.90	55.80	55.80	55.80		In Service	S			2100	Existing less Announced Withdrawal	Water	1,041		Apr 2023	28-03-2023
TAS1	Existing Plant	Catagunya / Liapootah / Wayatinah	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	LL_WY_CA	1	31.50	31.50	31.50	31.50	31.50		In Service	S			2100	Existing less Announced Withdrawal	Water	1,041		Apr 2023	28-03-2023
TAS1	Existing Plant	Catagunya / Liapootah / Wayatinah	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	LL_WY_CA	1	27	27	27	27	27		In Service	S			2100	Existing less Announced Withdrawal	Water	1,041		Apr 2023	28-03-2023
TAS1	Existing Plant	Catagunya / Liapootah / Wayatinah	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	LL_WY_CA	1	24	24	24	24	24		In Service	S			2100	Existing less Announced Withdrawal	Water	1,041		Apr 2023	28-03-2023
NSW1	Project	Cathana West Pumped Hydro	ATCO Australia Pumped Hydro Pty Ltd	Hydro - Dam	Hydro - Water		1	325	325	325	325			Publicly Announced	TBA				Proposed	Water	2,192	N00054	Apr 2023	08-11-2022
TAS1	Existing Plant	Cathana	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	CETHANA	1	85	85	85	85			In Service	S			2100	Existing less Announced Withdrawal	Water	1,043		Apr 2023	28-03-2023
TAS1	Project	Cathana Pumped Hydro Option	Hydro-Electric Corporation	Storage - Pumped hydro	Hydro - Water		4	187.50	187.50	750	750	15,000		Publicly Announced	S				Proposed	Water	2,224	T00001	Apr 2023	30-03-2023
VIC1	Existing Plant	Clover	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	CLOVER	2		14.50		29	29		In Service	NS			2057	Existing less Announced Withdrawal	Water	1,048		Mar 2022	22-03-2023
TAS1	Existing Plant	Cluny	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	CLUNY	1	19	19	19	19	19		In Service	NS			2100	Existing less Announced Withdrawal	Water	1,050		Mar 2022	19-04-2022
NSW1	Existing Plant	Copeton	AGL	Hydro - Dam	Hydro - Water	COPTNHYD	1	20	20	20	20			In Service	NS				Existing less Announced Withdrawal	Water	1,058		Mar 2022	22-03-2023
VIC1	Existing Plant	Dartmouth	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	DARTMT	1	185	185	185	185			In Service	S			2057	Existing less Announced Withdrawal	Water	1,068		Apr 2023	22-03-2023
TAS1	Existing Plant	Devils Gate	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	DEVILS_G	1	60	60	60	60			In Service	S			2100	Existing less Announced Withdrawal	Water	1,069		Apr 2023	28-03-2023
NSW1	Project	Dungowan 3000 MWH PHES	Dungowan Pumped Hydro Pty Ltd	Storage - Pumped hydro	Hydro - Water		1	150	150	150	150	150	1,500	Publicly Announced	S				Proposed	Water	1,926	N00075	Apr 2023	30-03-2023
VIC1	Existing Plant	Eildon	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	EILDON1	1	60	60	60	60			In Service	S			2057	Existing less Announced Withdrawal	Water	1,072		Apr 2023	22-03-2023
VIC1	Existing Plant	Eildon	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	EILDON2	1	60	60	60	60			In Service	S			2057	Existing less Announced Withdrawal	Water	1,072		Apr 2023	22-03-2023
VIC1	Existing Plant	Eildon	AGL Hydro Partnership	Hydro - Dam	Hydro - Water	EILDON2	1	60	60	60	60			In Service	S			2057	Existing less Announced Withdrawal	Water	1,072		Apr 2023	22-03-2023
VIC1	Existing Plant	Eildon Pondage Power Station (EPPS)	Pacific Hydro Investments Pty Ltd	Hydro - Run of River	Hydro - Water	EILDON3	1	4.50	4.50	4.50	4.50	4.50		In Service	NS				Existing less Announced Withdrawal	Water	1,073		Sep 2022	22-03-2023
TAS1	Existing Plant	Fisher	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	FISHER	1	43.20	43.20	43.20	43.20	43.20		In Service	S			2100	Existing less Announced Withdrawal	Water	1,076		Apr 2023	28-03-2023
NSW1	Existing Plant	Glenbawn	AGL	Hydro - Dam	Hydro - Water		1	5	5	5	5			In Service	NS				Existing less Announced Withdrawal	Water	1,078		Mar 2022	22-03-2023
VIC1	Existing Plant	Glenmaggie Hydro	Pacific Hydro Investments Pty Ltd	Hydro - Dam	Hydro - Water	GLENMAG1	1	1.90	1.90	1.90	1.90	1.90		In Service	NS				Existing less Announced Withdrawal	Water	1,079		Sep 2022	22-03-2023
SA1	Project	Gordon Pumped Hydro	Allura Group	Storage - Pumped hydro	Hydro - Water		1		230		230	230	1,840	Publicly Announced	S	Jan 2023			Proposed	Water	1,491		Apr 2023	28-03-2023
TAS1	Existing Plant	Gordon	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	GORDON	3	144	144	432	432			In Service	S			2100	Existing less Announced Withdrawal	Water	1,081		Apr 2023	28-03-2023
NSW1	Existing Plant	Guthega	Snowy Hydro Ltd	Hydro - Dam	Hydro - Water	GUTHEGA	2		30		60	60		In Service	S			2070	Existing less Announced Withdrawal	Water	1,083		Apr 2023	24-03-2023
SA1	Project	Guthega Pumped Hydro Energy Storage	Till Renewables	Storage - Pumped hydro	Hydro - Water		1		300		300	300		Publicly Announced	S				Proposed	Water	1,485		Apr 2023	15-05-2020
NSW1	Existing Plant	Hume Dam NSW	GSPower	Hydro - Dam	Hydro - Water	HUMENSW	1	29	29	29	29	29		In Service	S			2057	Existing less Announced Withdrawal	Water	1,732		Apr 2023	20-03-2023
VIC1	Existing Plant	Hume Dam VIC	GSP Energy Pty Ltd	Hydro - Dam	Hydro - Water	HUMEV	1	29	29	29	29	1.00 - 29.00		In Service	S			2057	Existing less Announced Withdrawal	Water	1,736		Apr 2023	20-03-2023
VIC1	Existing Plant	HYMVIC06 Belgrave-Hallam Rd Micro Hydro	South East Water Corporation	Hydro - Dam	Hydro - Water	HYMVIC06	1	0.25	0.25	0.25	0.25	0.25		In Service	NS				Existing less Announced Withdrawal	Water	1,565		Sep 2022	19-09-2022
NSW1	Existing Plant	Jindabyne	Snowy Hydro Ltd	Hydro - Dam	Hydro - Water	JINDABNE1	1	1.10	1.10	1.10	1.10	1.10		In Service	NS			2070	Existing less Announced Withdrawal	Water	1,096		Mar 2022	24-03-2023
TAS1	Existing Plant	John Butters	Hydro-Electric Corporation	Hydro - Dam	Hydro - Water	JBUTTERS	1	144	144	144	144	144		In Service	S			2100	Existing less Announced Withdrawal	Water	1,097		Apr 2023	28-03-2023
NSW1	Existing Plant	Jounama	Snowy Hydro Ltd	Hydro - Dam	Hydro - Water	JOUNAMA1	1	14.40	14.40	14.40	14.40	14.40		In Service	NS			2070	Existing less Announced Withdrawal	Water	1,098		Mar 2022	24-03-2023
QLD1	Existing Plant	Kareeya	CleanCo Queensland Limited	Hydro - Run of River	Hydro - Water	KAREEYA1	1		21.60		21.60	21.60		In Service	S			2037	Existing less Announced Withdrawal	Water				

Historical and Forecast Renewable Development
2013.Summary

1.0 2013 AEMO NEM Generation Data

Capacity by State

		Wind	Water
NSW	MW	281	2,525
SA	MW	1,203	-
QLD	MW	12	652
TAS	MW	140	2,170
VIC	MW	939	2,221
Total (AEMO Gen Info Aug-2013)	MW	2,574	7,569

AEMO NEM Generation (Aug-2013)

<https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

2.0 2013 State of the Energy Market (cross-check)

State of the Energy Market 2013

<https://www.aer.gov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-2013>

Cross-Check

2013 Installed Capacity	MW	48,321
Wind % of capacity	%	5.4%
Implied Wind Capacity	MW	2,609

Figure 1.5 Registered generation, by fuel source, 2012-13

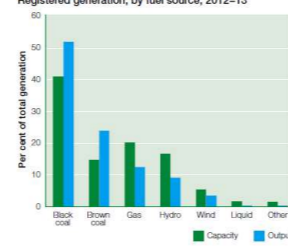


Figure 1.7 Wind generation share of total generation, by region

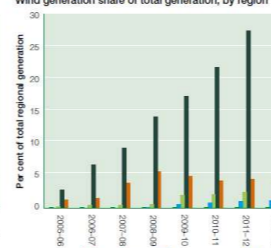
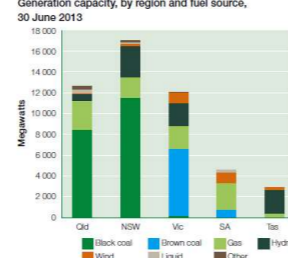


Figure 1.6 Generation capacity, by region and fuel source, 30 June 2013



Black and brown coal account for 55 per cent of registered generation capacity, but supply 75 per cent of output (figure 1.5). Victoria, New South Wales and Queensland rely on coal more heavily than do other regions (figure 1.6). Weakening electricity demand and the introduction of carbon pricing contributed to coal fired generation declining by 7 per cent in 2012-13.

Gas powered generators account for 20 per cent of registered capacity across the NEM, but they supply only 12 per cent of output. Among the NEM jurisdictions, South Australia is the most reliant on gas powered generation. More generally, 55 per cent of new generation investment over the past decade was in gas plant.

Hydroelectric generators account for 17 per cent of registered capacity but contribute 9 per cent of output. The bulk of Tasmanian generation is hydroelectric; there is also hydro generation in Queensland, Victoria and New South Wales. The introduction of carbon pricing and good rainfall in catchment areas contributed to a 36 per cent increase in hydro generation in 2012-13.

Intermittent wind generation has expanded under climate change policies such as the renewable energy target (RET) (section 3.3.3). Nationally, wind generators account for 5.4 per cent of capacity and contribute 3.4 per cent of output. In South Australia, however, wind represents 23 per cent of capacity, and met 28 per cent of electricity requirements in 2012-13 (figure 1.7). South Australia has one of the highest penetrations of wind generation of any electricity market in the world. On some days, wind has accounted for up to 65 per cent of total generation in the state (and up to 86 per cent of generation for a trading interval).

The National Electricity Market (NEM) is a wholesale market in which generators sell electricity in eastern and southern Australia (table 1.1). The main customers are energy retailers, which bundle electricity with network services for sale to residential, commercial and industrial energy users. The market covers six jurisdictions—Queensland, New South Wales, the Australian Capital Territory (ACT), Victoria, South Australia and Tasmania—that are physically linked by an interconnected transmission network. It has around 200 large generators, five state based transmission networks (linked by cross-border interconnectors) and 13 major distribution networks that supply electricity to end use customers. In geographic span, the NEM is one of the longest continuous alternating current systems in the world, covering a distance of 4500 kilometres.

Table 1.1 National Electricity Market at a glance

Participating jurisdictions	QLD, NSW, VIC, SA, TAS, ACT
NEM regions	QLD, NSW, VIC, SA, Tas
Installed capacity	48,321 MW
Number of registered generators	317
Number of customers	1.3 million
NEM turnover 2012-13	\$12.2 billion
Total energy generated 2012-13	199 TWh
National maximum winter demand 2012-13	20,471 MW ¹
National maximum summer demand 2012-13	22,537 MW ²

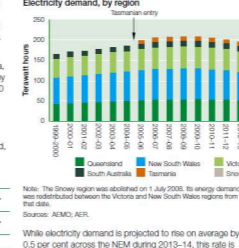
MW: megawatts; TWh: terawatt hours.

1: The maximum historical winter demand of 34,425 MW occurred in 2008.

2: The maximum historical summer demand of 35,561 MW occurred in 2009.

Source: AEMO, AER.

Figure 1.1 Electricity demand, by region



While electricity demand is projected to rise on average by 0.5 per cent across the NEM during 2013-14, this rate is weaker than forecast 12 months ago. The Australian Energy Market Operator (AEMO) revised down the level of forecast demand for 2013-14 by 2.4 per cent.³

Electricity demand has been declining as a result of:

- commercial and residential customers responding to higher electricity costs by reducing energy use and adopting energy efficiency measures such as solar water heating. New building regulations on energy efficiency reinforce this trend.
- subdued economic growth and weaker energy demand from the manufacturing sector. Large industrial electricity use has declined by more than 2 TWh since 2007-08.⁴

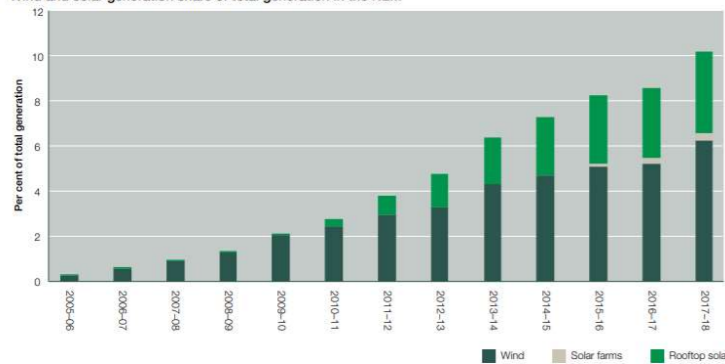
3.0 Solar in 2013

Source: State of the Energy Market 2018

<https://www.aer.gov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-2018>

Takeaway: No utility solar until 2015-16

Figure 3 Wind and solar generation share of total generation in the NEM



Note: Rooftop solar output estimates derived from CER data on installed capacity, and AEMO system output assumptions. Source: Grid generation (AER, AEMO); Rooftop solar (AER, CER, AEMO (www.nemweb.com.au/#rooftop-pv-actual)).

Existing & committed wind generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Gunning	Gunning Wind Energy Developments	31 x 1.5	46.5	Wind - Onshore	Wind	SS
Woodlawn Wind Farm	Woodlawn Wind Pty Ltd	23 x 2.1	48.3	Wind - Onshore	Wind	SS
Blayney	Eraring Energy	15 x 0.66	9.9	Wind - Onshore	Wind	NS
Capital Wind Farm	Renewable Power Ventures Pty Ltd	67 x 2.1	140.7	Wind - Onshore	Wind	NS
Crookwell	Eraring Energy	8 x 0.6	4.8	Wind - Onshore	Wind	NS
Cullerin Range Wind Farm	Cullerin Range Wind Farm Pty Ltd	15 x 2	30	Wind - Onshore	Wind	NS
Kooragang	Ausgrid	1 x 0.6	0.6	Wind - Onshore	Wind	NS
Committed						
Gullen Range	Gullen Range Wind Farm Pty Ltd	56 x 2.5 17 x 1.5	165.5	Wind - Onshore	Wind	SS
Boco Rock Wind Farm	Boco Rock Wind Farm Pty Ltd	58 x 1.7 9 x 1.6	113	Wind - Onshore	Wind	SS
Taralga	CBD Energy/Banco Santander	21 x 2 21 x 1.8 9 x 3	106.7	Wind - Onshore	Wind	SS
Total			666			

Existing & committed scheduled and semi-scheduled generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Bayswater	Macquarie Generation	4 x 660	2640.00	Steam Sub Critical	Black Coal	S
Blowering	Snowy Hydro Ltd	1 x 80	80.00	Hydro - Gravity	Water	S
Colongra	Delta Electricity	4 x 181	724.00	OCGT	Natural Gas Pipeline	S
Eraring	Eraring Energy	4 x 720	2880.00	Steam Sub Critical	Black Coal	S
Gunning	Gunning Wind Energy Developments	31 x 1.5	46.50	Wind - Onshore	Wind	SS
Guthega	Snowy Hydro Ltd	2 x 30	60.00	Hydro - Gravity	Water	S
Hume NSW	Eraring Energy	1 x 29	29.00	Hydro - Gravity	Water	S
Hunter Valley GT	Macquarie Generation	2 x 25	50.00	OCGT	Fuel Oil	S
Liddell	Macquarie Generation	4 x 500	2000.00	Steam Sub Critical	Black Coal	S
Mt Piper	Delta	2 x 700	1400.00	Steam Sub Critical	Black Coal	S
Redbank	Redbank Energy Ltd	1 x 143.8	143.80	Steam Sub Critical	Black Coal	S
Shoalhaven	Eraring Energy	2 x 80 2 x 40	240.00	Pump Storage	Water	S
Smithfield Energy Facility	Smithfield Power Partnership	1 x 62 3 x 36.3	170.90	CCGT	Natural Gas Pipeline	S
Tallawarra	EnergyAustralia	1 x 420	420.00	CCGT	Natural Gas Pipeline	S
Tumut 3	Snowy Hydro Ltd	6 x 250	1500.00	Hydro - Gravity	Water	S
Upper Tumut	Snowy Hydro Ltd	4 x 82 4 x 72	616.00	Hydro - Gravity	Water	S
Uranquinty	Origin Energy Uranquinty Power Pty Ltd	4 x 166	664.00	OCGT	Natural Gas Pipeline	S
Vales Point B	Delta Electricity	2 x 660	1320.00	Steam Sub Critical	Black Coal	S
Wallerawang C	Delta	2 x 500	1000.00	Steam Sub Critical	Black Coal	S
Woodlawn Wind Farm	Woodlawn Wind Pty Ltd	23 x 2.1	48.30	Wind - Onshore	Wind	SS
Committed						
Gullen Range	Gullen Range Wind Farm Pty Ltd	56 x 2.5 17 x 1.5	165.50	Wind - Onshore	Wind	SS
Boco Rock Wind Farm	Boco Rock Wind Farm Pty Ltd	67 x 1.8 21 x 2	113.00	Wind - Onshore	Wind	SS
Taralga	CBD Energy/Banco Santander	21 x 1.8 9 x 3	106.70	Wind - Onshore	Wind	SS
Total			16417.70			

Existing & committed wind generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Windy Hill	Ratch Australia	20 x 0.6	12	Wind - Onshore	Wind	NS
Total			12			

Existing & committed scheduled and semi-scheduled generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Barcaldine Power Station	Ergon Energy Queensland Pty Ltd	1 x 37 1 x 18	55	CCGT	Natural Gas Pipeline	S
Barron Gorge	Stanwell Corporation Limited	2 x 33	66	Run of River	Water	S
Braemar	Braemar Power Project Pty Ltd	3 x 168	504	OCGT	Coal Seam Methane	S
Braemar 2	NewGen Braemar 2 Partnership	3 x 173	519	OCGT	Coal Seam Methane	S
Callide B	CS Energy	2 x 350	700	Steam Sub Critical	Black Coal	S
Callide C	Callide Power Management	2 x 450	900	Steam Super Critical	Black Coal	S
Collinsville	Ratch Australia	2 x 31.5 2 x 30.5 1 x 66	190	Steam Sub Critical	Black Coal	S
Condamine A	QGC	1 x 144	144	CCGT	Coal Seam Methane	S
Darling Downs	Origin Energy Power Limited	1 x 280 3 x 121.5	644.5	CCGT	Coal Seam Methane	S
Gladstone	Gladstone Power Station Participants	6 x 280	1,680	Steam Sub Critical	Black Coal	S
Kareeya	Stanwell Corporation Limited	4 x 21.6	86.4	Run of River	Water	S
Kogan Creek	CS Energy	1 x 744	744	Steam Super Critical	Black Coal	S
Mackay GT	Stanwell Corporation Limited	1 x 34	34	OCGT	Diesel	S
Millmerran	Millmerran Power Partners	2 x 426	852	Steam Super Critical	Black Coal	S
Mt Stuart	Origin Energy Mt Stuart	2 x 146 1 x 131.5	423.5	OCGT	Kerosene Aviation fuel used for stationary energy	S
Oakey	Oakey Power Holdings	2 x 140.9	282	OCGT	Diesel	S
Roma	Origin Energy Power Limited	2 x 40	80	OCGT	Natural Gas Pipeline	S
Stanwell	Stanwell Corporation Limited	4 x 365	1,460	Steam Sub Critical	Black Coal	S
Swanbank E GT	Stanwell Corporation Limited	1 x 385	385	CCGT	Coal Seam Methane	S
Tarong	Stanwell Corporation Limited	4 x 350	1,400	Steam Sub Critical	Black Coal	S
Tarong North	Stanwell Corporation Limited	1 x 450	450	Steam Super Critical	Black Coal	S
Wivenhoe	CS Energy	2 x 250	500	Pump Storage	Water	S
Yabulu ^a	Ratch Australia	1 x 160 1 x 84	244	CCGT	Coal Seam Methane	S
Total			12,343.2			

a. Formerly known as Townsville GT.

Existing & committed wind generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Clements Gap	Pacific Hydro Clements Gap Pty Ltd	27 x 2.1	56.7	Wind - Onshore	Wind	SS
Hallett 4 North Brown Hill	Brown Hill North Pty Ltd	63 x 2.1	132.3	Wind - Onshore	Wind	SS
Hallett 5 The Bluff WF	Eurus Energy	25 x 2.1	52.5	Wind - Onshore	Wind	SS
Hallett Stage 1 Brown Hill	Palisade Investment Partner Limited	45 x 2.1	94.5	Wind - Onshore	Wind	SS
Hallett Stage 2 Hallett Hill	Infrastructure Capital Group Limited	34 x 2.1	71.4	Wind - Onshore	Wind	SS
Lake Bonney 2 Wind Farm	Lake Bonney Wind Power Pty Ltd	53 x 3	159.0	Wind - Onshore	Wind	SS
Lake Bonney 3 Wind Farm	Lake Bonney Wind Power Pty Ltd	13 x 3	39.0	Wind - Onshore	Wind	SS
Snowtown	Snowtown Wind Farm Pty Ltd	47 x 2.1	98.7	Wind - Onshore	Wind	SS
Waterloo	Waterloo Windfarm Pty Ltd	37 x 3	111.0	Wind - Onshore	Wind	SS
Canunda	Canunda Power Pty Ltd	23 x 2	46.0	Wind - Onshore	Wind	NS
Cathedral Rocks	JV Cathedral Rock Investments Pty Ltd and Acciona	33 x 2	66.0	Wind - Onshore	Wind	NS
Lake Bonney 1 Wind Farm	Lake Bonney Wind Power Pty Ltd	46 x 1.75	80.5	Wind - Onshore	Wind	NS
Mt Millar	Mount Millar Windfarm Pty Ltd	35 x 2	70.0	Wind - Onshore	Wind	NS
Starfish Hill	Ratch Australia	23 x 1.5	34.5	Wind - Onshore	Wind	NS
Wattle Point	Infrastructure Capital Group	55 x 1.65	90.8	Wind - Onshore	Wind	NS
Committed						
Snowtown S2 North	Snowtown Wind Farm Pty Ltd	48 x 3	144.0	Wind - Onshore	Wind	SS
Snowtown S2 South	Snowtown Wind Farm Pty Ltd	42 x 3	126.0	Wind - Onshore	Wind	SS
Total			1,472.9			

Existing & committed scheduled and semi-scheduled generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Clements Gap	Pacific Hydro Clements Gap Pty Ltd	27 x 2.1	56.7	Wind - Onshore	Wind	SS
Dry Creek GT	Synergen Power Pty Ltd	3 x 52	156	OCGT	Natural Gas Pipeline	S
Hallett 4 North Brown Hill	Brown Hill North Pty Ltd	63 x 2.1	132.3	Wind - Onshore	Wind	SS
Hallett 5 The Bluff WF	Eurus Energy	25 x 2.1	52.5	Wind - Onshore	Wind	SS
Hallett GT	EnergyAustralia	2 x 24.8 1 x 27.5 2 x 17.3 3 x 17 4 x 16.4	228.3	OCGT	Natural Gas Pipeline	S
Hallett Stage 1 Brown Hill	Palisade Investment Partner Limited	45 x 2.1	94.5	Wind - Onshore	Wind	SS
Hallett Stage 2 Hallett Hill	Infrastructure Capital Group Limited	34 x 2.1	71.4	Wind - Onshore	Wind	SS
Ladbroke Grove	Origin Energy Power Limited	2 x 40	80	OCGT	Natural Gas Pipeline	S
Lake Bonney 2 Wind Farm	Lake Bonney Wind Power Pty Ltd	53 x 3	159	Wind - Onshore	Wind	SS
Lake Bonney 3 Wind Farm	Lake Bonney Wind Power Pty Ltd	13 x 3	39	Wind - Onshore	Wind	SS
Mintaro GT	Synergen Power Pty Ltd	1 x 90	90	OCGT	Natural Gas Pipeline	S
Northern	Flinders Operating Services Pty Ltd	2 x 265	530	Steam Sub Critical	Brown Coal	S
Osborne	Osborne Cogeneration Pty Ltd	1 x 118 1 x 62	180	CCGT	Natural Gas Pipeline	S
Pelican Point	Pelican Point Power Limited	1 x 478	478	CCGT	Natural Gas Pipeline	S
Playford B	Flinders Operating Services Pty Ltd	4 x 60	240	Steam Sub Critical	Brown Coal	S
Port Lincoln GT	Synergen Power Pty Ltd	2 x 25 1 x 23.5	73.5	OCGT	Diesel	S
Quarantine	Origin Energy Power Limited	4 x 24 1 x 128	224	OCGT	Natural Gas Pipeline	S
Snowtown	Snowtown Wind Farm Pty Ltd	47 x 2.1	98.7	Wind - Onshore	Wind	SS
Snuggery	Synergen Power Pty Ltd	3 x 21	63	OCGT	Diesel	S
Torrens Island A	AGL Energy	4 x 120	480	Steam Sub Critical	Natural Gas Pipeline	S
Torrens Island B	AGL Energy	4 x 200	800	Steam Sub Critical	Natural Gas Pipeline	S
Waterloo	Waterloo Windfarm Pty Ltd	37 x 3	111	Wind - Onshore	Wind	SS
Committed						
Snowtown S2 North	Snowtown Wind Farm Pty Ltd	48 x 3	144	Wind - Onshore	Wind	SS
Snowtown S2 South	Snowtown Wind Farm Pty Ltd	42 x 3	126	Wind - Onshore	Wind	SS
Total			4,707.9			

Existing & committed wind generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Woolnorth Studland Bay / Bluff Point	Woolnorth Wind Farm Holding Pty Ltd	25 x 3 37 x 1.75	140	Wind - Onshore	Wind	NS
Committed						
Musselroe	Woolnorth Wind Farm Holding Pty Ltd	56 x 3	168	Wind - Onshore	Wind	SS
Total			308			

Existing & committed scheduled and semi-scheduled generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Bastyan	Hydro-Electric Corporation	1 x 79.9	79.9	Hydro - Gravity	Water	S
Bell Bay Three	Aurora Energy Tamar Valley Pty Ltd	3 x 40	120	OCGT	Natural Gas Pipeline	S
Catagunya / Liapootah / Wayatinah	Hydro-Electric Corporation	2 x 24 3 x 27.9 3 x 12.8	170.1	Hydro - Gravity	Water	S
Cethana	Hydro-Electric Corporation	1 x 85	85	Hydro - Gravity	Water	S
Devils Gate	Hydro-Electric Corporation	1 x 60	60	Hydro - Gravity	Water	S
Fisher	Hydro-Electric Corporation	1 x 43.2	43.2	Hydro - Gravity	Water	S
Gordon	Hydro-Electric Corporation	3 x 144	432	Hydro - Gravity	Water	S
John Butters	Hydro-Electric Corporation	1 x 144	144	Hydro - Gravity	Water	S
Lake Echo	Hydro-Electric Corporation	1 x 32.4	32.4	Hydro - Gravity	Water	S
Lemonthyme / Wilmot	Hydro-Electric Corporation	1 x 51 1 x 30.6	81.6	Hydro - Gravity	Water	S
Mackintosh	Hydro-Electric Corporation	1 x 79.9	79.9	Hydro - Gravity	Water	S
Meadowbank	Hydro-Electric Corporation	1 x 40	40	Hydro - Gravity	Water	S
Poatina	Hydro-Electric Corporation	6 x 50	300	Hydro - Gravity	Water	S
Reece	Hydro-Electric Corporation	2 x 115.6	231.2	Hydro - Gravity	Water	S
Tamar Valley Combined Cycle	Aurora Energy Tamar Valley Pty Ltd	1 x 140 1 x 68	208	CCGT	Natural Gas Pipeline	S
Tamar Valley Peaking	Aurora Energy Tamar Valley Pty Ltd	1 x 58	58	OCGT	Natural Gas Pipeline	S
Tarraleah	Hydro-Electric Corporation	6 x 15	90	Hydro - Gravity	Water	S
Trevallyn	Hydro-Electric Corporation	2 x 20 2 x 26.5	93	Hydro - Gravity	Water	S
Tribute	Hydro-Electric Corporation	1 x 82.8	82.8	Hydro - Gravity	Water	S
Tungatinah	Hydro-Electric Corporation	5 x 25	125	Hydro - Gravity	Water	S
Committed						
Musselroe	Woolnorth Wind Farm Holding Pty Ltd	56 x 3	168	Wind - Onshore	Wind	SS
Total			2,724.1			

Existing & committed wind generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Macarthur	Macarthur Wind Farm Pty Ltd and Meridian Wind Maca	140 x 3	420	Wind - Onshore	Wind	SS
Oaklands Hill	Oaklands Hill Wind farm Pty Ltd	32 x 2.1	67.2	Wind - Onshore	Wind	SS
Challicum Hills	Pacific Hydro Challicum Hills Pty Ltd	35 x 1.5	52.5	Wind - Onshore	Wind	NS
Codrington	Energy Pacific Vic Pty Ltd	14 x 1.3	18.2	Wind - Onshore	Wind	NS
Leonards Hill	Hepburn Community Wind Park Co-operative Limited	2 x 2.05	4.1	Wind - Onshore	Wind	NS
Mortons Lane Wind Farm	Mortons Lane WindFarm Pty Ltd	13 x 1.5	19.5	Wind - Onshore	Wind	NS
Portland Stage 2-3 Cape Bridgewater and Cape Nelson South	Pacific Hydro Portland Wind Farm Pty Ltd	61 x 2	102	Wind - Onshore	Wind	NS
Toora	Ratch Australia	12 x 1.75	21	Wind - Onshore	Wind	NS
Waubra	Pyrenees Wind Energy Developments	128 x 1.5	192	Wind - Onshore	Wind	NS
Wonthaggi	Regional Wind Farms	6 x 2	12	Wind - Onshore	Wind	NS
Yambuk	Energy Pacific Vic Pty Ltd	20 x 1.5	30	Wind - Onshore	Wind	NS
Committed						
Mt Mercer	Mt Mercer Wind Farm Pty Ltd	64 x 2.05	131.2	Wind - Onshore	Wind	SS
Total			1,069.7			

Existing & committed scheduled and semi-scheduled generation

Power Station	Owner	Unit Numbers and Nameplate Capacity (MW)	Installed Capacity (MW)	Plant Type	Fuel	Dispatch Type
Bairnsdale	Alinta DEBO	2 x 47	94	OCGT	Natural Gas Pipeline	S
Bogong / Mackay	AGL	2 x 80 6 x 25	310	Hydro - Gravity	Water	S
Dartmouth	AGL	1 x 185	185	Hydro - Gravity	Water	S
Eildon	AGL	2 x 60 2 x 7.5	135	Hydro - Gravity	Water	S
Hazelwood	Hazelwood Power	8 x 200	1,600	Steam Sub Critical	Brown Coal	S
Hume VIC	Eraring Energy	1 x 29	29	Hydro - Gravity	Water	S
Jeeralang A	Industry Funds Management Nominees Ltd Ecogen Hold	4 x 53	212	OCGT	Natural Gas Pipeline	S
Jeeralang B	Industry Funds Management Nominees Ltd	3 x 76	228	OCGT	Natural Gas Pipeline	S
Laverton North	Snowy Hydro Ltd	2 x 156	312	OCGT	Natural Gas Pipeline	S
Loy Yang A	GEAC Great Energy Alliance Corporation	3 x 560 1 x 500	2,180	Steam Sub Critical	Brown Coal	S
Loy Yang B	IPM Australia Limited	2 x 500	1,000	Steam Sub Critical	Brown Coal	S
Macarthur	Macarthur Wind Farm Pty Ltd and Meridian Wind Maca	140 x 3	420	Wind - Onshore	Wind	SS
Mortlake	Origin Energy Power Limited	2 x 283	566	OCGT	Natural Gas Pipeline	S
Morwell/Energy Brix	Energy Brix Australia Corporation Pty Ltd	1 x 84 1 x 30 1 x 75	189	Steam Sub Critical	Brown Coal	S
Murray 1	Snowy Hydro Ltd	10 x 95	950	Hydro - Gravity	Water	S
Murray 2	Snowy Hydro Ltd	4 x 138	552	Hydro - Gravity	Water	S
Newport	Industry Funds Management Nominees Ltd	1 x 510	510	Steam Sub Critical	Natural Gas Pipeline	S
Oaklands Hill	Oaklands Hill Wind farm Pty Ltd	32 x 2.1	67	Wind - Onshore	Wind	SS
Somerton	AGL Energy	4 x 40	160	OCGT	Natural Gas Pipeline	S
Valley Power	Snowy Hydro Ltd	6 x 50	300	OCGT	Natural Gas Pipeline	S
West Kiewa	AGL	4 x 15	60	Hydro - Gravity	Water	S
Yallourn W	EnergyAustralia	2 x 380 2 x 360	1,480	Steam Sub Critical	Brown Coal	S
Committed						
Mt Mercer	Mt Mercer Wind Farm Pty Ltd	64 x 2.05	131	Wind - Onshore	Wind	SS
Total			11,670			

Historical and Forecast Renewable Development
2016 Summary

1.0 2016 AEMO NEM Generation Data

Capacity by State		Wind	Solar	Water	Total
NSW	MW	666	231	2,745	3,642
SA	MW	1,473	-	3	1,475
QLD	MW	12	0	664	676
TAS	MW	308	-	2,281	2,589
VIC	MW	1,249	-	2,296	3,545
Total (AEMO Gen Info Aug-2016)	MW	3,708	232	7,988	11,927

AEMO NEM Generation (Aug-2016)

<https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>

END

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New South Wales Summary**Changes since last update**

Moree Solar Farm: Moree Solar Farm Pty Ltd advises that Moree Solar Farm (56 MW) has been completed and is in full
White Rock Wind Farm: Goldwind Australia advises that White Rock Wind Farm (175 MW) is a committed project.

Williamsdale Solar Farm: Elementus Energy Ptd Ltd. advises that Williamsdale Solar Farm (10MW) is a committed

Mugga Lane Solar Park: Zhenfa Canberra Solar Farm One advises that Mugga Lane Solar Park (13MW) is a committed
New Development: Gullen Solar Project, Narromine Solar Farm, South Keswick Solar Farm, Boco Rock Wind Farm (expansion),

Generation withdrawals**Withdrawn**

None to report.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

Smithfield Energy Facility: Smithfield Power Partnership advises that Smithfield Energy Facility 170.9 MW) is to close on 31 July
Liddell Power Station: AGL Energy Limited advises that Liddell C Power Station (2000 MW) is to shut down in 2022.

Committed projects

Coal, CCGT, OCGT, Gas other, Water, Biomass, Geo-thermal, Other : None to report.

Wind: White Rock Wind Farm.

Solar: OneSun Capital, Mugga Lane Solar Park.

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

AEMO has not been advised of any plant limitations for this region.

New South Wales existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Other	Total
Existing	10240.0	590.9	1488.0	147.0	231.1	666.0	2744.6	130.7	51.1	16289.4
Announced Withdrawal	2000.0	170.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2170.9
Existing less Announced Withdrawal	8240.0	420.0	1488.0	147.0	231.1	666.0	2744.6	130.7	51.1	14118.5
Committed	0.0	0.0	0.0	0.0	23.0	175.0	0.0	0.0	0.0	198.0
Proposed	0.0	15.0	500.0	0.0	211.6	4723.4	0.0	15.5	0.0	5465.5
Withdrawn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Existing includes Announced withdrawal.

* Excludes rooftop PV installations.

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Queensland Summary**Changes since last update**

Cook Shire Solar Storage Project: Lyon Infrastructure Investments advises that Cook Shire Solar Storage Project (28MW) is a
Oaky Creek 2: EDL OCI advises that Oaky Creek 2 (15MW) is a committed project.

Mt Stuart Power Station: Origin Energy advises that Mt Stuart Power Station (419 MW) will no longer retire in July 2023.

Mackay GT Power Station: Stanwell Corporation advises that Mackay GT (30 MW) will no longer be retired at the end of financial year.

New Developments: Clare Solar Farm, Lilyvale Solar Farm.

Generation withdrawals**Withdrawn**

Swanbank E: The plant has been placed into cold storage until 1 July 2017. At this stage will be available in July 2017, Summer 2018 and

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

Daandine Power Station: Energy infrastructure Investments Pty Ltd. advises that Daandine Power Station will be retired in June 2017.

Committed projects

Coal, CCGT, OCGT, Gas other, Wind, Water, Biomass, Geo-thermal, Other : None to report.

Solar: Cook Shire Solar Storage Project.

Gas other: Oaky Creek 2.

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

Swanbank E: The plant has been placed into cold storage until 1 July 2017. At this stage will be available in July 2017, Summer 2018 and

Queensland existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Other	Total
Existing	8216.0	1212.5	1894.3	172.4	0.4	12.0	663.9	367.0	1.0	12539.5
Announced Withdrawal	0.0	0.0	34.0	30.0	0.0	0.0	0.0	0.0	0.0	64.0
Existing less Announced Withdrawal	8216.0	1212.5	1860.3	142.4	0.4	12.0	663.9	367.0	1.0	12475.5
Committed	0.0	0.0	0.0	15.0	28.0	0.0	0.0	0.0	0.0	43.0
Proposed	0.0	0.0	2545.0	0.0	646.0	989.0	0.0	157.6	0.0	4337.6
Withdrawn	0.0	-385.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-385.0

Note: Existing includes Announced withdrawal.

* Excludes rooftop PV installations.

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South Australia Summary**Changes since last update**

Northern Power Station: Alinta Energy advises that Northern Power Station (546 MW) has closed operations in May 2016.

Playford B Power Station: Alinta Energy advises that Playford B Power Station (240 MW) has closed operations in May 2016.

Torrens Island Power Station A: AGL Energy advises that it will defer the previously planned mothballing of four generating units from its Torrens Hornsdale Wind Farm (Stage 2): HWF 2 advises that Stage 2 of Hornsdale Wind Farm (102.4 MW) is a committed project.

Angaston: Lumo Generation SA Pty Ltd. advises that Angaston Power Station (50 MW) has changed registration status from Non-

Waterloo Expansion: Waterloo Windfarm Ptd Ltd. advises that Waterloo Expansion Wind Farm (19.8 MW) is a

New Development: Aurora Solar Energy Project, Bungala Solar Power Project, Port Augusta Solar, Yorke Peninsula Biomass.

Generation withdrawals**Withdrawn**

Pelican Point Power Station: Pelican Point Power Limited advised that the station capacity has been reduced to half from 1 April 2015 (to

Northern Power Station: Alinta Energy advises that Northern Power Station (546 MW) has closed operations in May 2016.

Playford B Power Station: Alinta Energy advises that Playford B Power Station (240 MW) has closed operations in May 2016.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

None to report.

Committed projects

Coal, CCGT, OCGT, Gas other, Water, Biomass, Geo-thermal, Other : None to report.

Wind: HWF 1 Pty Ltd advises that Stage 1 of Hornsdale Wind Farm (102.4 MW) is a committed project. Full commercial operation is expected in

Wind: Waterloo Expansion: Waterloo Windfarm Ptd Ltd. advises that Waterloo Expansion is a committed project.

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

Pelican Point Power Station: Pelican Point Power Limited advised that the station capacity has been reduced to half from 1 April 2015 (to

South Australia existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Other	Total
Existing	0.0	419.0	914.8	1280.0	0.0	1472.8	2.5	21.3	129.3	4239.7
Announced Withdrawal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing less Announced Withdrawal	0.0	419.0	914.8	1280.0	0.0	1472.8	2.5	21.3	129.3	4239.7
Committed	0.0	0.0	0.0	0.0	0.0	224.6	0.0	0.0	0.0	224.6
Proposed	0.0	200.0	320.0	0.0	702.0	2951.0	0.0	20.0	0.0	4193.0
Withdrawn	-786.0	-239.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1025.0

Note: Existing includes Announced withdrawal.

* Excludes rooftop PV installations.

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Tasmania Summary

Changes since last update

Bell Bay Power Station: Hydro Tasmania advises that Bell Bay Power Station (105 MW) will no longer be withdrawn from service from 1 January 2018 onwards.
Iamar Valley CCS: Hydro Tasmania advises that Iamar Valley CCS (205 MW) has been withdrawn from service since May 2016.

Generation withdrawals

Withdrawn
 None to report.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

None to report.

Committed projects since last update

Coal, CCGT, OCGT, Gas other, Water, Biomass, Geo-thermal, Other : None to report.

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

Bastyan Power Station: Hydro-Electric Corporation advises that Bastyan's available capacity will be (zero) 0 MW during summer 2020-21.

Catagunyah/Liapootah/Wayatinah Power Station: Hydro-Electric Corporation advises that Catagunyah/Liapootah/Wayatinah Power Stations will undergo the following outages:

- Liapootah Unit 1 will be unavailable during:
 - summer 2016-17
- Liapootah Unit 2 will be unavailable during:
 - summer 2017-18
- Liapootah Unit 3 will be unavailable during:
 - summer 2018-19
- Wayatinah Unit 1 will be unavailable during:
 - summer 2016-17
- Wayatinah Unit 2 will be unavailable during:
 - summer 2017-18
- Wayatinah Unit 3 will be unavailable during:
 - summer 2018-19
- Catagunya Unit 1 will be unavailable during:
 - summer 2018-19
- Catagunya Unit 2 will be unavailable during:
 - summer 2017-18
- Catagunya Unit 3 will be unavailable during:
 - summer 2018-19

Devils Gate Power Station: Hydro-Electric Corporation advises that Devils Gate's available capacity will be (zero) 0 MW during summer 2017-18 and winter 2018.

Gordon Power Station: Hydro-Electric Corporation advises that Gordon's available capacity will reduced to 354 MW (-42) MW during summer and winter due to lower storage levels. Also, the station will undergo the following outages:

- Gordon Unit 1 will be unavailable during:
 - winter 2018
- Gordon Unit 2 will be unavailable during:
 - winter 2019
- Gordon Unit 3 will be unavailable during:
 - winter 2019

John Butters Station: Hydro-Electric Corporation advises that John Butters' available capacity will be (zero) 0 MW during summer 2024-25 and winter 2025.

Lake Echo Power Station: Hydro-Electric Corporation advises that Lake Echo's available capacity will be (zero) 0 MW during winter 2019 and 2020.

Lemonthyme/Wilmot Power Station: Hydro-Electric Corporation advises that Lemonthyme/Wilmot's available capacity will be 54 MW during summer 2018-19 and 32 MW during summer 2019-20.

Mackintosh Power Station: Hydro-Electric Corporation advises that Mackintosh's available capacity will be (zero) 0 MW during summer 2022-23.

Reece Power Station: Hydro-Electric Corporation advises that Reece's available capacity will be 116 MW during summer 2016-17 and 2023-24 due to an outage.

Tarraleah Power Station: Hydro-Electric Corporation advises that Tarraleah's available capacity will be:

- 75 MW from winter 2022 to summer 2024-25 due to outages of Units 1, 2 and 3.

Trevallyn Power Station: Hydro-Electric Corporation advises that Trevallyn's available capacity will be:

- 81.9 MW during summer 2019-20 due to outages of Unit 1.
- 0 MW during summer 2020-21 due to outages

Tungatinah Power Station: Hydro-Electric Corporation advises that Tungatinah's available capacity will be:

- 104.4 MW during summer 2019-20 due to outages
- 104.4 MW during summer 2021-22 due to outages

Tribute: Hydro-Electric Corporation advises that Tribute's available capacity will be (zero) 0 MW during summer 2025-

Tasmania existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Other	Total
Existing	0.0	0.0	178.0	0.0	0.0	308.0	2280.8	4.9	0.0	2771.7
Announced Withdrawal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing less Announced Withdrawal	0.0	0.0	178.0	0.0	0.0	308.0	2280.8	4.9	0.0	2771.7
Committed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proposed	0.0	0.0	0.0	0.0	0.0	329.0	0.0	0.0	0.0	329.0
Withdrawn	0.0	-208.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-208.0

Note: Existing includes Announced withdrawal.
 * Excludes rooftop PV installations.

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Victoria Summary**Changes since last update**

Mt Gellibrand: Acciona Energy advises that Mt Gellibrand Stage 1 (66 MW) is a committed project.
New Development: Mallee Solar Park, Kiata Wind Farm.

Generation withdrawals**Withdrawn**

None to report.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

AEMO has not been advised of any planned plant withdrawals in Victoria within the 10-year planning outlook.

Committed projects since last update

Coal, CCGT, OCGT, Gas other, Solar, Water, Biomass, Geo-thermal, Other : None to report.

Wind: Mt Gellibrand Wind Farm.

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

AEMO has not been advised of any plant limitations for this region.

Victoria existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Other	Total
Existing	6230.0	21.0	1903.8	523.4	0.0	1249.4	2295.8	52.7	0.0	12276.1
Announced Withdrawal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing less Announced Withdrawal	6230.0	21.0	1903.8	523.4	0.0	1249.4	2295.8	52.7	0.0	12276.1
Committed	0.0	0.0	0.0	0.0	0.0	306.0	0.0	0.0	0.0	306.0
Proposed	0.0	500.0	600.0	0.0	164.0	3448.7	34.0	0.0	0.0	4746.7
Withdrawn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Existing includes Announced withdrawal.

* Excludes rooftop PV installations.

Historical and Forecast Renewable Development
2018 Summary

1.0 2018 AEMO NEM Generation Data

Capacity by State		Wind	Solar	Hydro / Storage	Total
NSW	MW	1,307	452	2,706	4,465
SA	MW	1,809	122	104	2,035
QLD	MW	12	365	738	1,115
TAS	MW	373	0	2,287	2,660
VIC	MW	1,613	21	2,286	3,920
Total (AEMO Gen Info Jul-2018)	MW	5,114	960	8,121	14,195
Cross Check (AER)		5,114	960	8,021	

AEMO NEM Generation (Jul-2018)
https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information
 Difference is storage 100MW

2.0 2018 AER State of the Energy Market Report

Figure 2.5 - Generation in the NEM, by fuel source, 2017-18

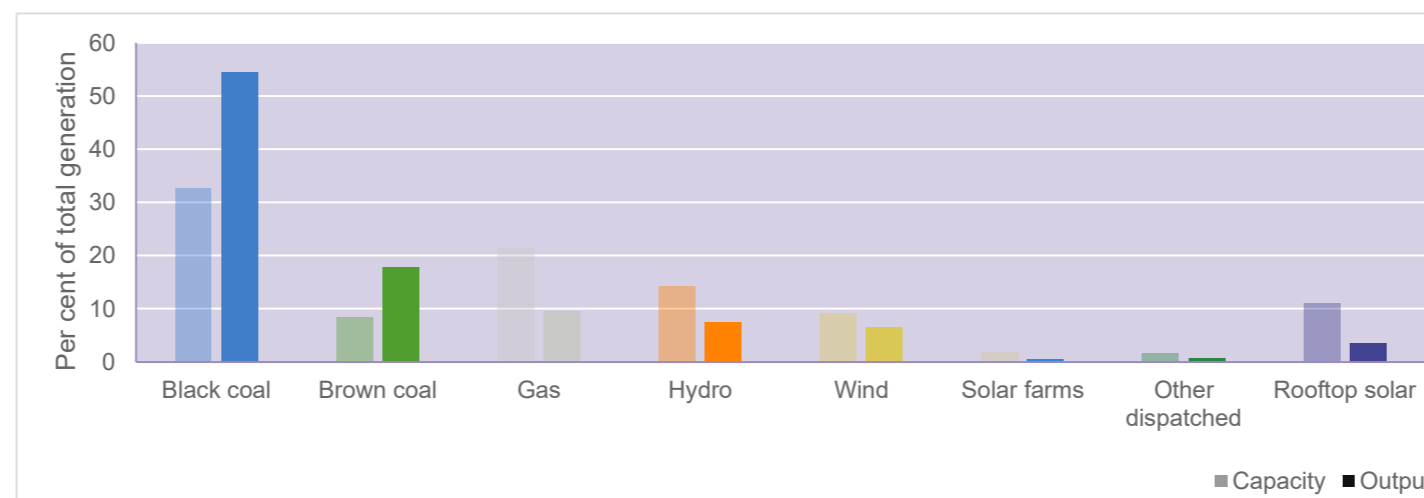
State of the Energy Market 2018

Note: Generation capacity at 1 July 2018. Rooftop solar output estimates derived from CER data on installed capacity and AEMO system output assumptions. Other dispatch includes biomass, waste gas and liquid fuels. Storage includes only battery storage.

Source: Grid demand: AER, AEMO; Rooftop solar: AER, CER, AEMO (nemweb.com.au/#rooftop-pv-actual).

	Output		Capacity	
	GWh of total output		MW	% of total capacity
Black coal	110 726.12	54.50	18 346.00	32.64
Brown coal	36 107.39	17.77	4 660.00	8.29
Gas	19 232.55	9.47	11 968.00	21.29
Hydro	15 095.46	7.43	8 021.00	14.27
Wind	13 075.79	6.44	5 114.00	9.10
Solar farms	798.78	0.39	960.00	1.71
Other dispatched	1 153.58	0.57	920.00	1.64
Rooftop solar	6 969.87	3.43	6 225.00	11.07

<https://www.aer.gov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-2018>



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<http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information>

Data presented is current as at 1 July 2018

New South Wales Summary

Changes since last update

Beryl Solar Farm: FS NSW Project No 1 AT Pty Ltd advises that Beryl Solar Farm (98.4 MW) is now a committed project.

Coleambally Solar Farm: Coleambally Solar Farm (180 MW) is now reported as committed since Neoen advises that it has

Crudine Ridge Wind Farm: Crudine Ridge Wind Farm (135 MW) is now reported as committed since CRWF Nominees Pty Ltd

Generation withdrawals

Withdrawn

None to report.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

Liddell Power Station: AGL Energy Limited advises that Liddell C Power Station (2000 MW) is to shut down in 2022.

Committed projects

Coal, Diesel, CCGT, OCGT, Gas other, Water, Biomass, Geo-thermal, Other : None to report.

Solar: Beryl Solar Farm (98.4 MW), Coleambally Solar Farm (180 MW)

Wind: Bodangora Wind Farm (113 MW), Crookwell 2 Wind Farm (91 MW), Crudine Ridge Wind Farm (135 MW).

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

AEMO has not been advised of any plant limitations for this region.

New South Wales existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Storage	Other	Total
Existing	10,160	606	1,530	147	452	1,307	2,706	163	-	9	17,080
Announced Withdrawal	2,000	-	-	-	-	-	-	-	-	-	2,000
Existing less Announced Withdrawal	8,160	606	1,530	147	452	1,307	2,706	163	-	9	15,080
Upgrade	100	-	-	-	-	-	-	-	-	-	100
Committed	-	-	-	-	278	339	-	-	-	-	618
Proposed	-	15	-	975	6,800	5,445	2,000	181	-	29	15,444
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal

* Solar excludes rooftop PV installations

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Data presented is current as at 1 July 2018

Queensland Summary**Changes since last update**

Childers Solar Farm: Childers Solar Farm (56 MW) is now reported as a committed project since ESCO Pacific advises that it has commenced construction.

Clermont Solar Farm : Clermont Asset Co Pty Ltd as Trustee advises that Clermont Solar Farm (92.5 MW) is now a committed project.

Emerald Solar Park: Emerald Solar Park (72 MW) is now reported as a committed project since Lighthouse Infrastructure Management Limited advises that it has commenced construction.

Haughton Solar Farm: Pacific Hydro advises that Haughton Solar Farm (100 MW) is now a committed project.

Susan River Solar Farm: Susan River Solar Farm (100 MW) is now reported as a committed project since ESCO Pacific advises it has commenced construction.

TeeBar Solar Farm: TeeBar Solar Farm (52.5 MW) is now reported as a committed project since TeeBar Clean Energy Pty Ltd advises it has commenced construction.

Yarranlea Solar: Yarranlea Solar (102.5 MW) is now reported as a committed project since Risen Energy Australia advises it has commenced construction.

Generation withdrawals**Withdrawn**

No generators withdrawn.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

Mackay GT Power Station: Stanwell Corporation advises that Mackay GT (34 MW) will be retired at the end of financial year 2020-21.

Committed projects

Coal, CCGT, OCGT, Gas other, Geo-thermal, Other: None to report.

Biomass: Tableland Mill (24MW)

Solar: Childers Solar Farm (80 MW), Clermont Solar Farm (92.5 MW), Collinsville PV (42.5 MW), Darling Downs Solar Farm (108.5 MW), Daydream

Storage: Kennedy Energy Park - Phase 1 (2 MW)

Water: Lake Somerset (4.3MW)

Wind: Coopers Gap Wind Farm (350 MW), Kennedy Energy Park - Phase 1 (43.2MW), Mt Emerald Wind Farm (180.5MW)

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

Callide C: CS Energy have advised that Callide C capacity has been reduced from 1,000 MW to 840 MW.

Queensland existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Storage	Other	Total
Existing	8,186	1,596	1,895	208	365	12	738	419	-	1	13,420
Announced Withdrawal	-	-	34	-	-	-	-	-	-	-	34
Existing less Announced Withdrawal	8,186	1,596	1,861	208	365	12	738	419	-	1	13,386
Committed	-	-	-	-	1,422	574	-	24	2	-	2,022
Proposed	-	-	1,000	15	10,400	1,188	250	190	1,120	-	14,163
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal

* Solar excludes rooftop PV installations

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Data presented is current as at 1 July 2018

South Australia Summary

Changes since last update

Tailem Bend - Solar : Vena Energy advises that Tailem Bend - Solar (108 MW) is now a committed project.

Generation withdrawals

Withdrawn

AEMO has not been advised of any plant that are currently withdrawn from this region.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

Gas other: Torrens Island A Power Station (480 MW) will be progressively mothballed between 2019 and 2021. Two units (240 MW) will be mothballed after

Committed projects

Coal, CCGT, OCGT, Gas other, Water, Biomass, Geo-thermal, Other : None to report.

Gas other: Barker Inlet Power Station (210 MW)

Solar: Bungala Two Solar Power Project (110 MW), Tailem Bend - Solar (108 MW)

Wind: Lincoln Gap Wind Farm Stage 1 (126 MW), Willogoleche Wind Farm (125 MW)

Storage: ESCRI Dalrymple Battery Storage (30 MW)

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

AEMO has not been advised of any plant limitations for this region.

South Australia existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Storage	Other	Total
Existing	-	663	1,198	1,280	122	1,809	4	20	100	145	5,341
Announced Withdrawal	-	-	-	480	-	-	-	-	-	-	480
Existing less Announced Withdrawal	-	663	1,198	800	122	1,809	4	20	100	145	4,861
Committed	-	-	-	210	218	251	-	-	30	-	709
Proposed	-	45	624	-	2,388	3,330	755	15	488	30	7,674
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal

* Solar excludes rooftop PV installations

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Data presented is current as at 1 July 2018

Tasmania Summary

Changes since last update

Wild Cattle Hill Wind Farm: Wild Cattle Hill Wind Farm (144 MW) is now reported as committed as Wild Cattle Hill Pty Ltd advises construction has commenced.

Generation withdrawals

Withdrawn

None to report.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

Tamar Valley CCGT: Hydro Tasmania advises that the Tamar Valley CCGT (208 MW) will be withdrawn after May

Committed projects

Coal, CCGT, OCGT, Gas other, Water, Solar, Biomass, Geo-thermal, Other : None to report.

Wind: Granville Harbour Wind Farm (111.6 MW), Wild Cattle Hill Wind Farm (144 MW)

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

Bastyan Power Station: Hydro-Electric Corporation advises that Bastyan's available capacity will be (zero) 0 MW during summer 2021-22.

Catagunya/Liapootah/Wayatinah Power Station: Hydro-Electric Corporation advises that

- Liapootah Unit 3 will be unavailable during:
 - summer 2018-19
- Wayatinah Unit 3 will be unavailable during:
 - summer 2018-19
- Catagunya Unit 1 will be unavailable during:
 - summer 2018-19

Devils Gate Power Station: Hydro-Electric Corporation advises that Devils Gate's available capacity will be (zero) 0 MW during summer 2021-22.

Gordon Power Station: Hydro-Electric Corporation advises that Gordon's available capacity will be reduced to 371 MW (-

- Gordon Unit 1 will be unavailable during:
 - summer 2022-23
- Gordon Unit 2 will be unavailable during:
 - summer 2021-22
- Gordon Unit 3 will be unavailable during:
 - summer 2023-24

John Butters Station: Hydro-Electric Corporation advises that John Butters' available capacity will be (zero) 0 MW during summer 2023-24.

Lake Echo Power Station: Hydro-Electric Corporation advises that Lake Echo's available capacity will be (zero) 0 MW during summer 2023-24.

Lemonthyme/Wilmot Power Station: Hydro-Electric Corporation advises that Lemonthyme/Wilmot's available capacity will be 54 MW during summer 2017-18 and summer 2020-21, and 32 MW during summer 2019-20.

Mackintosh Power Station: Hydro-Electric Corporation advises that Mackintosh's available capacity will be (zero) 0 MW during summer 2022-23.

Reece Power Station: Hydro-Electric Corporation advises that Reece's available capacity will be 116 MW during summer 2022-23.

Tarraleah Power Station: Hydro-Electric Corporation advises that Tarraleah's available capacity will be:

- 75 MW from winter 2022 to summer 2024-25 due to outages of Units 1, 2 and 3.

Trevallyn Power Station: Hydro-Electric Corporation advises that Trevallyn's available capacity will be:

- 81.9 MW during summer 2019-20 due to outages of Unit 1.
- 0 MW during summer 2020-21 due to outages

Tungatinah Power Station: Hydro-Electric Corporation advises that Tungatinah's available capacity will be:

- 104.4 MW during summer 2019-20 due to outages
- 104.4 MW during summer 2021-22 due to outages

Tribute: Hydro-Electric Corporation advises that Tribute's available capacity will be (zero) 0 MW during summer 2025-26.

Tasmania existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Storage	Other	Total
Existing	-	208	178	-	0	373	2,287	5	-	-	3,051
Announced Withdrawal	-	208	-	-	-	-	-	-	-	-	208
Existing less Announced Withdrawal	-	-	178	-	0	373	2,287	5	-	-	2,843
Committed	-	-	-	-	-	256	-	-	-	-	256
Proposed	-	-	-	-	18	542	2,310	-	-	-	2,870
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal

* Solar excludes rooftop PV installations

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Data presented is current as at 1 July 2018

Victoria Summary**Changes since last update**

Ballarat Energy Storage System: Ballarat Energy Storage System (30 MW) is now reported as committed since AusNet Services advises that it has commenced construction

Bulgana Green Power Hub - Wind Farm: Bulgana Green Power Hub - Wind Farm (204 MW) is now reported as committed since Neoen advises that it has commenced construction.

Bulgana Green Power Hub - BESS: Bulgana Green Power Hub - Battery Energy Storage System (BESS) (21 MW) is now reported as committed since Neoen advises that it has commenced construction.

Gannawarra Energy Storage System: Gannawarra Energy Storage System (25 MW) is now reported as committed since GESS Co advises that it has commenced construction

Karadoc Solar Farm: Karadoc Solar Farm (90 MW) is now reported as committed since Overland Sun Farming Pty Ltd advises that it has commenced construction

Lal Lal Wind Energy Facility - Elaine end: Lal Lal Wind Energy Facility - Elaine end (79 MW) is now reported as committed since Westwind Energy Pty Ltd advises that it has commenced construction

Loy Yang B: Alinta Energy is reviewing the Loy Yang B upgrade project, and will provide an update before the 2018-19 Summer season.

Moorabool Wind Farm: Moorabool Wind Farm (320 MW) is now reported as committed since Goldwind advises that it has commenced construction

Murra Warra Wind Farm - stage 1 : RES Australia advises that Murra Warra Wind Farm - stage 1 (226 MW) is now a committed project

Stockyard Hill : Goldwind advises that Stockyard Hill (532 MW) is now a committed project.

Wemen Solar Farm: Wemen Asset Co Pty Ltd advises that Wemen Solar Farm (87.75 MW) is now a committed project.

Generation withdrawals**Withdrawn**

AEMO has not been advised of any recent withdrawals for this region.

Announced withdrawals (i.e. Mothballed, Seasonal Shut down etc.)

AEMO has not been advised of any announced withdrawals for this region.

Committed projects

Coal, CCGT, OCGT, Gas other, Water, Biomass, Geo-thermal, Other : None to report.

Solar: Bannerton Solar Park (88 MW), Gannawarra Solar Farm (50 MW), Karadoc Solar Farm (90 MW),

Wind: Bulgana Green Power Hub - Wind Farm (204 MW), Crowlands Wind Farm (79.95MW), Lal Lal Wind

Storage: Ballarat Energy Storage System (30 MW), Bulgana Green Power Hub - BESS (21 MW), Gannawarra

Proposed projects

Please refer to information presented in the worksheet titled 'New Developments'.

Plant limitations

AEMO has not been advised of any plant limitations for this region.

Victoria existing and potential new developments by generation type (MW)

Status	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Storage	Other	Total
Existing	4,660	21	1,917	523	21	1,613	2,286	58	-	-	11,098
Announced Withdrawal	-	-	-	-	-	-	-	-	-	-	-
Existing less Announced Withdrawal	4,660	21	1,917	523	21	1,613	2,286	58	-	-	11,098
Upgrade	80	-	-	-	-	-	-	-	-	-	80
Committed	-	-	-	-	397	1,573	-	-	75	-	2,044
Proposed	-	-	765	-	2,294	6,138	34	-	80	-	9,311
Withdrawn	-	-	-	-	-	-	-	-	-	-	-

Note: Existing includes Announced Withdrawal

* Solar excludes rooftop PV installations

Summary

This sheet includes a Summary Chart and Table of the data within this file.

AEMO NEM Generation (May 2021)

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Region

NEM

Dispatch Type

S, SS & NS

Summary Chart: NEM Scheduled, Semi-scheduled & Non-scheduled Generation (MW) - Existing and New Developments by Fuel-Technology Category

Summary Table: NEM Scheduled, Semi-scheduled & Non-scheduled Generation (MW) - Existing and New Developments by Fuel-Technology Category

Summary Status	Fuel - Technology Category										
	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Battery Storage	Other	Total
Existing	23,201	3,029	7,047	2,113	5,203	8,815	7,992	617	261	200	58,477
Announced Withdrawal	2,000	388	34	240	-	-	-	-	-	-	2,662
Existing less Announced Withdrawal	21,201	2,641	7,013	1,873	5,203	8,815	7,992	617	261	200	55,815
Upgrade / Expansion	90	-	15	-	-	-	-	-	-	-	105
Committed	-	-	-	-	1,378	1,161	2,290	-	339	24	5,192
Proposed	1,141	880	5,637	1,532	32,903	22,813	7,436	41	18,664	127	91,174
Withdrawn	-	-	-	240	-	-	-	-	-	-	240

Notes:

"Existing" summary status includes "Announced Withdrawal".

"Committed" summary status includes "Committed".

"Solar*" Fuel-Technology category excludes Rooftop PV installations.

Projects with "TBA" Dispatch Type are not included in the Summary Table.

Projects with "Confidential" FuelBucketSummary are not included in the Summary Table.

Summary

This sheet includes a Summary Chart and Table of the data within this file.

AEMO NEM Generation (May 2022)

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Region

NEM

Dispatch Type

S, SS & NS

Summary Chart: NEM Scheduled, Semi-scheduled & Non-scheduled Generation (MW) - Existing and New Developments by Fuel-Technology Category

Summary Table: NEM Scheduled, Semi-scheduled & Non-scheduled Generation (MW) - Existing and New Developments by Fuel-Technology Category

Summary Status	Fuel - Technology Category										
	Coal	CCGT	OCGT	Gas other	Solar*	Wind	Water	Biomass	Battery Storage	Other	Total
Existing	22,701	2,985	6,845	2,014	5,901	10,055	7,992	617	620	206	59,935
Announced Withdrawal	4,380	180	-	120	-	-	-	-	-	-	4,680
Existing less Announced Withdrawal	18,321	2,805	6,845	1,894	5,901	10,055	7,992	617	620	206	55,255
Upgrade / Expansion	90	-	10	-	-	-	-	-	-	-	100
Committed	-	-	1,070	-	3,564	987	2,290	-	140	24	8,075
Anticipated	-	-	123	-	770	1,081	-	-	1,027	-	3,001
Proposed	990	207	4,418	2,407	43,039	56,591	10,877	342	28,294	227	147,391
Withdrawal	500	0	361.2	0	0	0	0	0	0	0	861.2

Notes:

"Existing" summary status includes "Announced Withdrawal".

"Committed" summary status includes "Committed".

"Solar*" Fuel-Technology category excludes Rooftop PV installations.

Projects with "TBA" Dispatch Type are not included in the Summary Table.

Projects with "Confidential" FuelBucketSummary are not included in the Summary Table.