

Solar achieves new record of 3,775 MW in 2018, with 2019 set to beat this again

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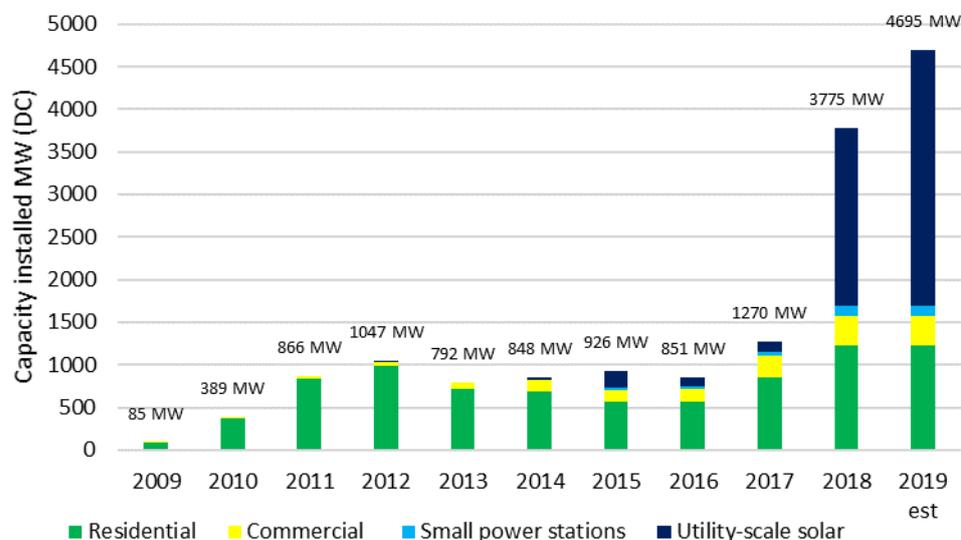
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2018 was another record year for the solar PV industry in Australia installing 3,775 megawatts (MW) which was nearly three times the level of 2017 installations. Solar PV is now making a material contribution to Australia’s electricity supply and a full year’s output from systems installed in 2018 amounts to more than 6 million megawatt hours (MWh) which is equivalent to 3.2 % of electricity consumed in the National Electricity Market (NEM).

To put this into perspective the annual generation from solar PV installed in 2018 is equivalent to 71% of the average output of the Liddell power station in NSW which is due to close in 2022. If we add the generation from the expected level of solar installations in 2019 and 2020 it will deliver a staggering 19 million MWh which is 10% of NEM consumption and coincidentally is equivalent to the combined output of the Hazelwood power station (now closed) and the Liddell power station.

Solar PV capacity installed in Australia (MW DC)



We have analysed the level of PV installations by market sector – residential, commercial, small power stations and utility-scale installations (refer to Table below).

Queensland remains the biggest market for solar PV in 2018 accounting for 40% with NSW and Victoria on 22% and 20% share respectively. NSW was the largest market for residential solar PV in 2018 with 326 MW installed and was also the largest market for commercial systems.

The residential market had been the mainstay of Australia’s PV industry until 2017. More than 2,080MW of utility-scale solar power stations were installed and commissioned in 2018 which accounts for 55% of total installations. Green Energy Markets’ Renewables Report indicates that we

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can expect more than 3,000 MW (DC) of utility-scale projects will be commissioned in 2019. The level of utility-scale solar PV installations is expected to fall in 2020 as the Mandated Renewable Energy Target is met.

The emergence of the utility solar market in Australia has been due to the significant reduction in installed system costs, higher wholesale prices and support under the Mandated Renewable Energy Target.

The continued growth in the residential and commercial sectors, each increasing by more than 40% in 2018 has been due:

- Continued media focus on energy security and higher prices has acted to generate a desire amongst households and businesses to take greater control over their electricity supply and an interest in installing solar; and
- Continued high wholesale prices which also flowed into higher feed-in tariffs. This has improved the economics of solar PV and made it a more financially attractive proposition for customers.

Solar PV capacity installed (MW DC)

	Residential	Commercial	Small Power Stations	Utility scale	Total
2017					
ACT	9.0	2.1			11.1
NSW	202.2	57.2	13.6		273.0
NT	10.1	5.7			15.8
QLD	249.4	56.5	19.5	119.0	444.4
SA	79.6	31.0	5.1		115.7
TAS	11.2	3.2	0.3		14.7
VIC	140.5	56.5	5.6		202.5
WA	157.6	30.2	4.7		192.5
Total	859.7	242.3	48.8	119.0	1269.8
2018					
ACT	18.4	4.4	0.8		23.6
NSW	326.1	87.3	26.0	399.2	838.6
NT	14.5	5.6	7.8		27.9
QLD	320.9	78.3	19.4	1076.8	1495.4
SA	122.0	53.9	23.2	149.4	348.5
TAS	12.7	5.7	1.7		20.1
VIC	237.2	82.3	29.5	419.2	768.2
WA	175.4	34.3	5.3	38.0	253.0
Total	1227.2	351.8	113.7	2082.6	3775.3
2018 Increase	42.8%	45.2%	132.8%		197.3%

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Methodology and Notes

- We have utilised certificate creation data from the REC-Registry to determine the level of residential and commercial installations.
- For small power stations, we have only included those installations that received accreditation from the Clean Energy Regulator in 2018 and note that there were more than 120 small power stations that had submitted applications for registration at the end of December 2018, many of which would have been commissioned in 2018.
- 2019 estimates of installed capacity for utility-scale systems are based on solar projects currently under construction with other market sectors assumed to be broadly in line with 2018 installations.
- PV market segments are based on the size of the installation as follows:
 - Residential – systems installed up to and including 15 kW in size;
 - Commercial – systems installed between 15 kW and 100 kW
 - Small power stations – systems above 100kW that need to be registered as power stations under the Renewable Energy Target; and
 - Utility-scale – systems installed greater than 5 MW (AC) in size.