

Australian PV Market Trends

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Abstract

Australia continues to set new records in the installation of rooftop and ground mounted solar. This paper will present the latest market data and analysis, based on reports prepared for the International Energy Agency as part of Australia's participation in the PV Power Systems Technical Collaboration Program (IEA PVPS TCP).

Highlights

In 2020, Australia saw a record 360,000 rooftop systems installed, a 40% increase in new systems.

The total new annual rooftop installs hit a new high of 3GW, with 1.8GW on residential roofs and 1.2GW on commercial and industrial roofs.

Records were set in each of the rooftop sectors, with a contraction in utility scale solar, off a high in 2020 with the end of the large-scale systems support under the Commonwealth Governments Renewable Energy Target.

With the addition of a total 4.5 GW of new solar on rooftops and ground mount, the total installed capacity at the end of 2020 reached 20.8 GW.

With 20.8 GW, Australia now leads the world in solar per capita, with 810W/person, ahead of Germany with 650W/person.

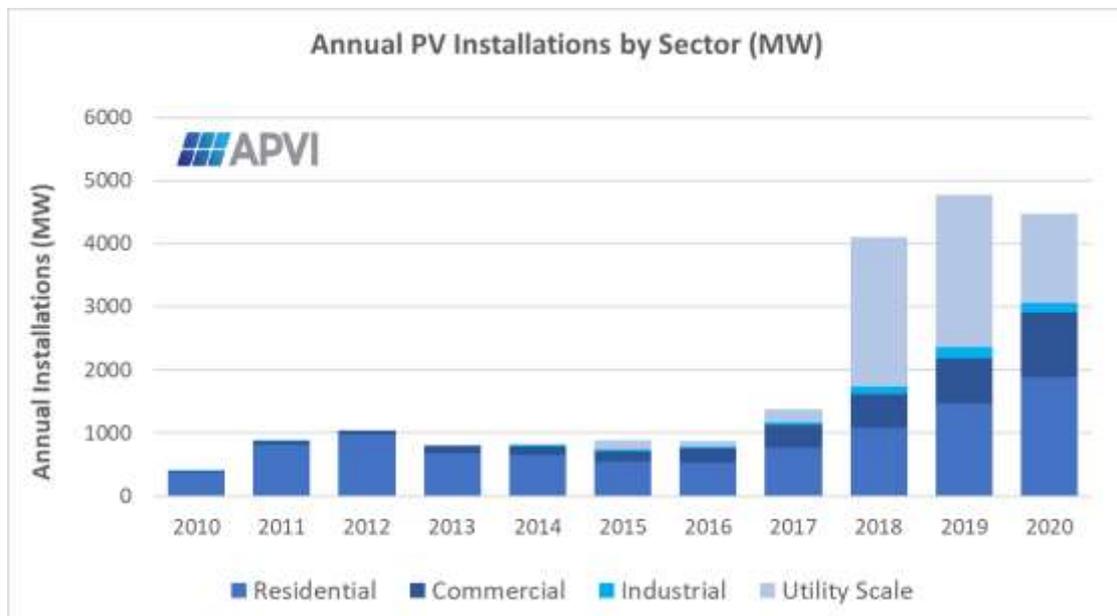


Figure 1. Annual PV installations by sector.

Historical Trends

Historical trends in total installed capacity are shown in Figure 2, where it can be seen;

- with 13GW on rooftops, Australia has seen a greater than ten-fold increase over the total installed capacity of 1.3 GW in 2011.
- since 2018, there has been an additional 7GW of centralised, or utility scale solar connected
- More solar was installed in 2020 than the total historical installed capacity of 4.1GW to the end of 2014.

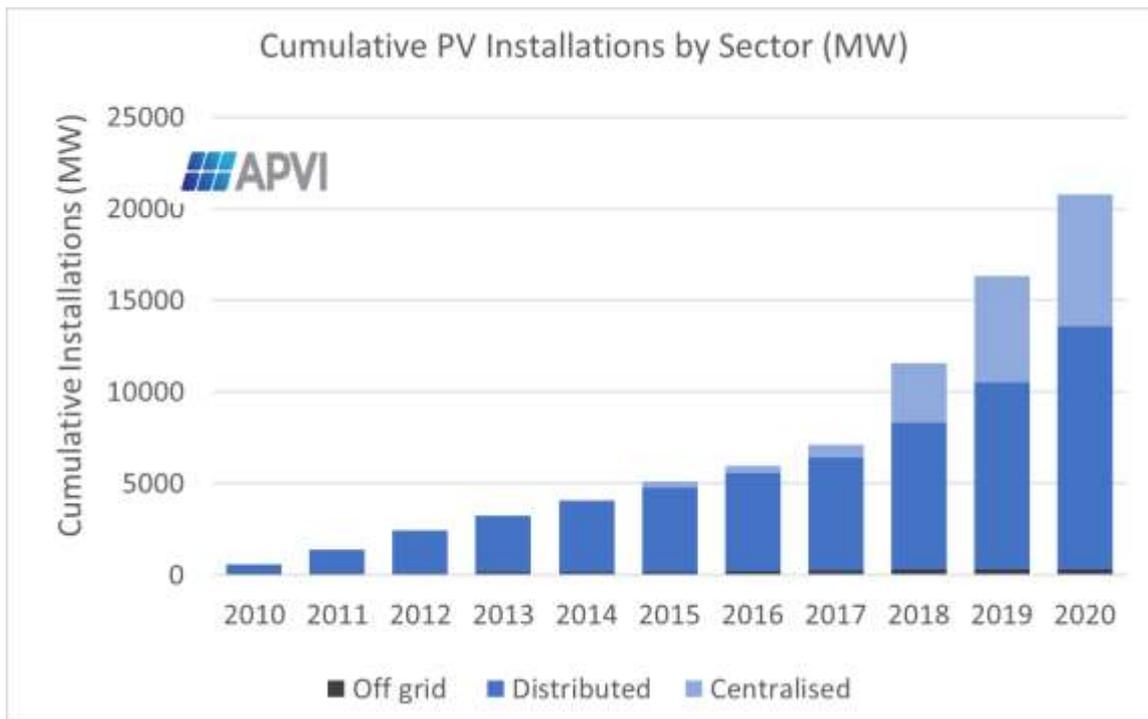


Figure 2 Cumulative Installs in Australia by connection.

In annual installs, records were broken in all rooftop sectors, shown in Figure 1;

- Residential solar (0-10 kW) grew to over 1.8 GW in new installs
- Commercial solar (10-100 kW) made up a further 1 GW of new rooftop solar.
- Large-scale solar contracted compared to a record in 2019, with a total of 1.44GW solar over 5MW registered as installed and connected to the grid.

The Australian market is very different to most world markets as it has been dominated by rooftop PV. At end 2020

- Australia saw a record 360,000 new rooftop installs (<100kW)– a 40% increase on the previous record of 280,000 set in 2019.
- Australia had more than 2.69 million rooftop installations
- The nation-wide average of free-standing households with a PV system now exceeds 31%.
- The states of Queensland and South Australia, average close to 40% and a significant number of localities have densities of rooftop solar over 50%.

The percentage of residential rooftop dwellings is shown by state in **Figure 3**.



Figure 3. Percentage of residential dwellings with a PV system by state/territory

The average PV system size continues to grow steadily as the size of residential systems increases and as a growing number of businesses purchase PV.

In 2020, the average rooftop install (sub 100 kW) was 8.0 kW.

Technology and manufacturing improvements led to a steep drop in prices between 2007 and 2013. Price drops continue, but less dramatically. With price stability and despite declining incentives, the market growth remains strong, with the correlation shown in **Figure 4**.

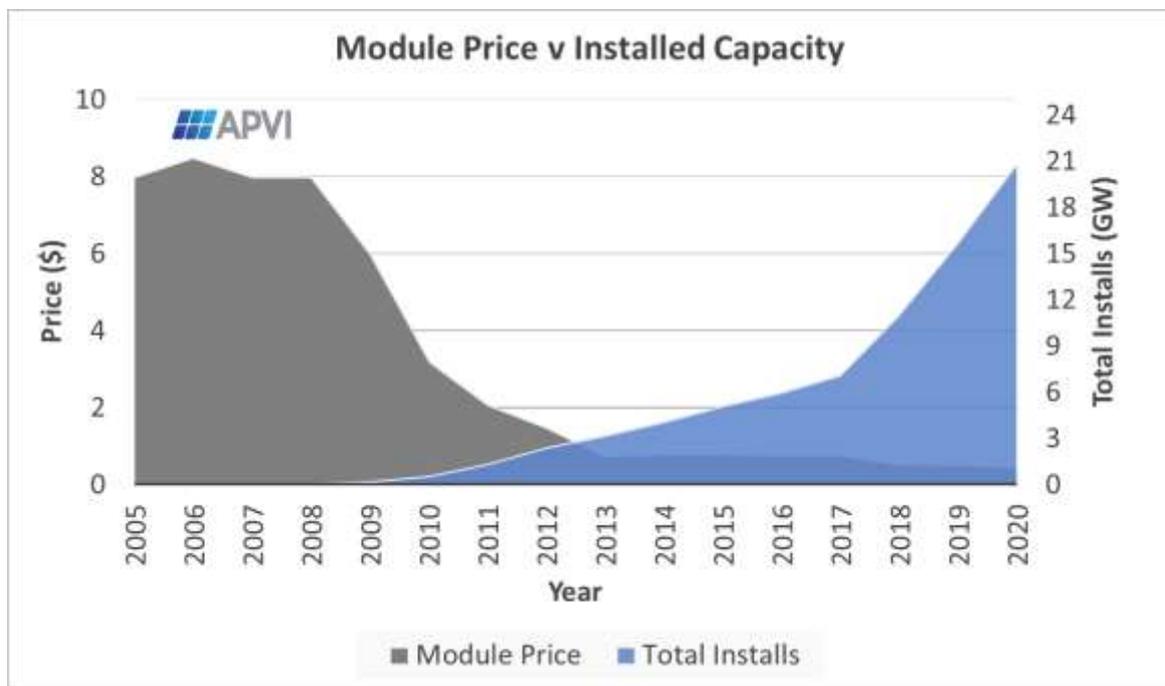


Figure 4. Module Price and Total Installed Capacity in the Australian Market

The presentation at APSRC 2021 will cover the market to end 2020 and updates reflecting progress in the 2021

market.