

The collapse in utility-scale renewable energy investment and construction activity in Queensland

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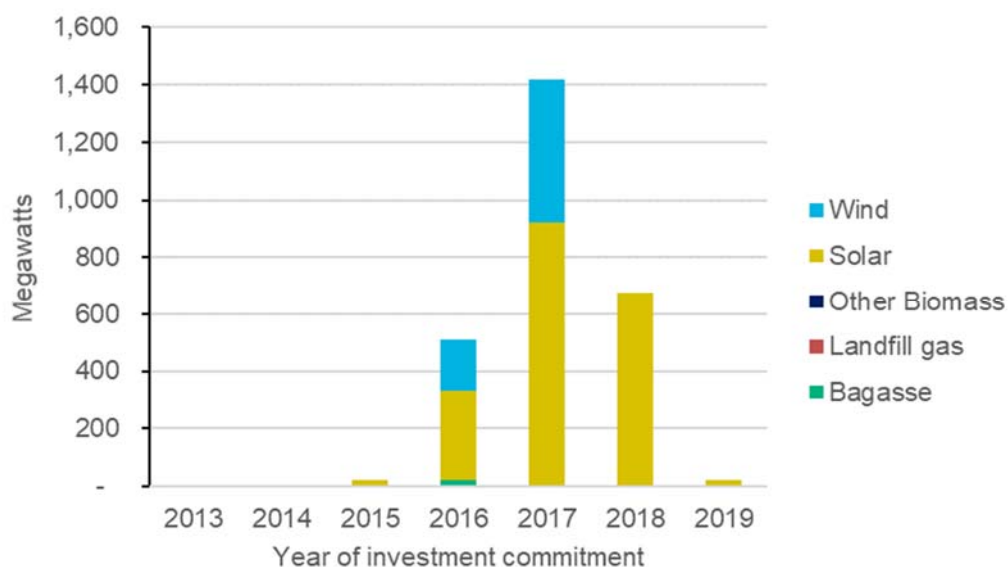
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Beginning in mid-2016 Queensland experienced a boom in large-scale renewable energy investment fueled in the main by demand generated by the Federal Renewable Energy Target and confidence that the Turnbull Government would leave the scheme in place without alteration. Investors were attracted to Queensland by a combination of an excellent solar resource, relatively buoyant wholesale electricity prices, and an appetite from both electricity retailers and the Queensland Government to provide long-term contracts that provided power price certainty to investors.

Figure 1 shows the megawatts of large-scale (above 100kW of capacity) renewable energy capacity committed to construction by the year in which investment was committed. It shows that investment levels prior to 2016 were negligible. Investment commitments peaked in 2017, then remained relatively strong over 2018 but have completely collapsed in 2019.

Figure 1 – Queensland large scale renewable energy capacity committed to construction by year

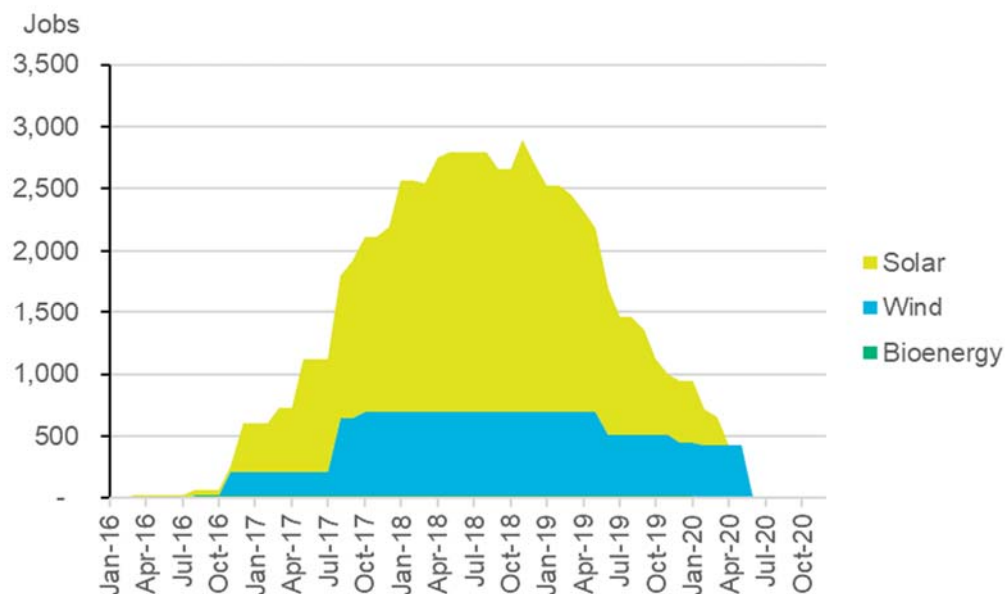


Source: Green Energy Markets Power Plant Database

Figure 2 provides an estimate of the amount of full-time equivalent jobs engaged in construction of utility-scale (5 megawatts or greater) renewable energy projects. The renewable energy project commitments since 2016 led to a surge in construction activity and employment which likely peaked in November 2018 at about 2,900 full time equivalent jobs. Since then employment has fallen precipitously as solar farms in particular, have reached completion. As of November this year we estimate employment will have dropped below 1,000 full time equivalents. Once Coopers Gap Wind Farm is likely to be completed around April next year, employment will have fallen to zero unless we see a complete turnaround in investment commitments.

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Figure 2 Queensland utility-scale (5MW+) renewable energy construction jobs by month January 2016 to December 2020



Source: Green Energy Markets estimates based on renewable energy job creation factors per megawatt of capacity as detailed in our [Renewable Energy Index](#). Construction jobs are distributed equally across the months of each project's respective construction period.

Queensland has now moved into a situation of substantial excess daytime generating supply. Even before the renewable energy investment boom the state had an oversupply of baseload generation, with over 8,000 megawatts of coal capacity for only 6,000MW of average annual demand. Since August this year the state regularly experiences very low wholesale power prices during the middle of the day. This includes prices regularly dropping to negative values where generators essentially pay to remain operating – a product of coal plant being limited in their ability to ramp output down and then back up within short periods of time. With the national Renewable Energy Target now substantially exceeded, there is also no longer an incentive available to reward new renewable energy generators for the greenhouse gas abatement they provide. Given these two factors investment in large-scale renewable energy projects in Queensland is likely to remain weak until such time as the Queensland Government CleanCo contracts or builds new plant, or new emission reduction policies are enacted.