

Can the rooftop solar boom keep going?

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We've now passed a third of the way through 2018 and have chalked up more than 100MW of rooftop solar PV installations in every single month so far, as detailed in this month's [Green Energy Markets Renewable Energy Index](#).

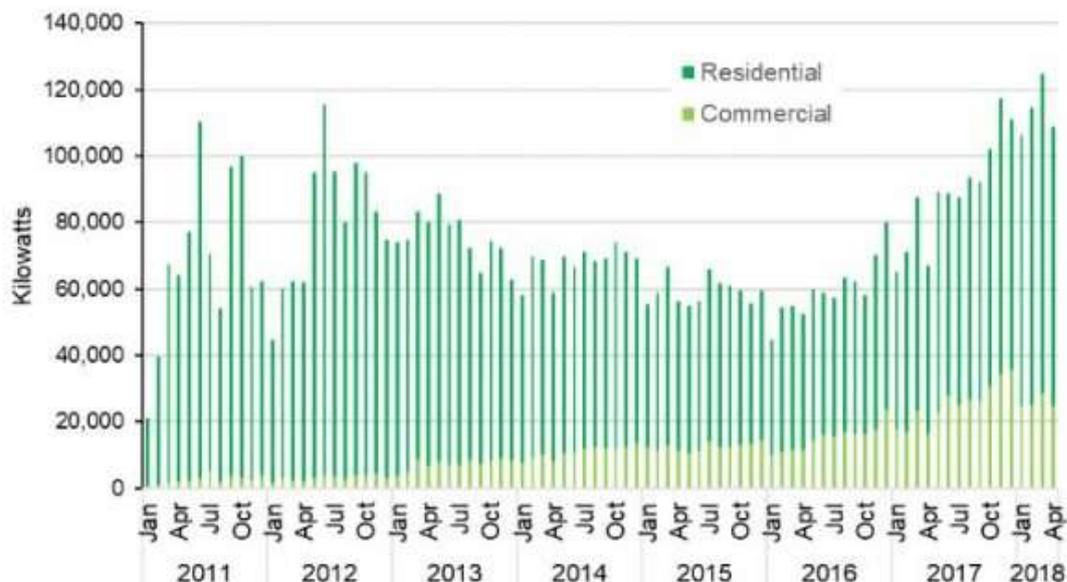
It comes on top of a run of 3 months at the end of last year that exceeded 100MW. So far the 2018 rate of capacity coming through the STC registry is 56% greater than 2017 over the same period.

This is really quite staggering compared to historical experience. Prior to the last few months there were just two months where we managed to exceed 100MW– June 2011 and June 2012 (based on STC creation date).

On both of these previous occasions the market was supercharged by a rush to get in before the government cut back rebates by close to a \$1000. What also makes this 100MW per month run over 2018 quite exceptional is that it has come during period that has typically been a seasonal low for capacity creation.

If you look across the period below, January and February tend to be low points in the year and the first four months have averaged 18 per cent below the levels of the remaining parts of the year.

Kilowatts of solar PV capacity by month



Note this data is reported on the basis of the date that STCs related to a solar system were created, not the date that the solar system was installed. The date STCs are created will typically lag the date of installation by several weeks and sometimes by months.

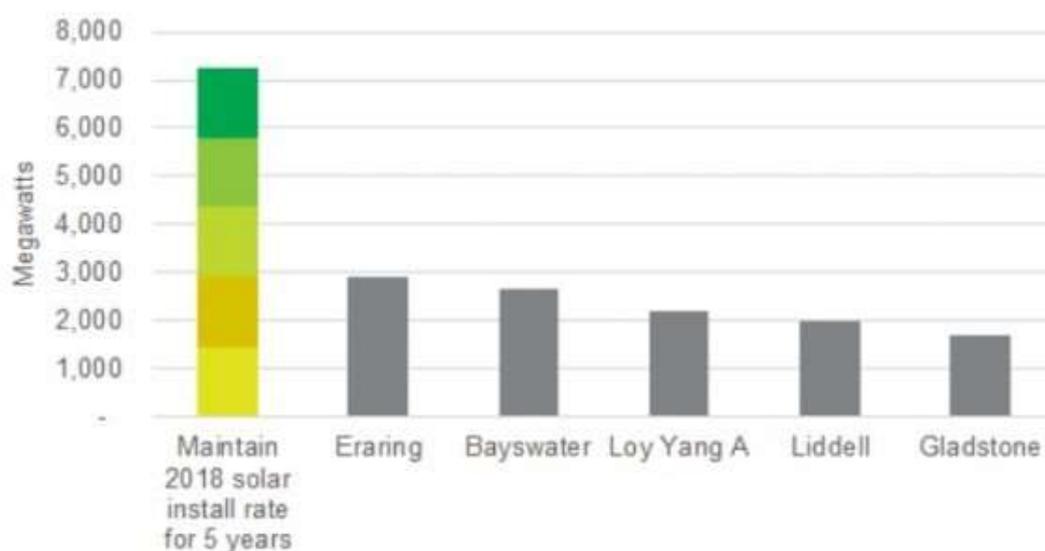
[Source: Green Energy Markets Solar Report](#)

If we just maintained the current monthly average of kilowatts of capacity for the remainder of the year, then by the end of the year we'll achieve a new record of 1360MW of capacity. However, given the latter two-thirds of the year tend to have higher levels of creation than the first four months, 1400MW to 1500MW appear quite likely.

To put this rate of solar installations into the context of the broader energy market and policy debate, let's consider what this rate of installations could deliver within the five-year time period it would take to build a new coal power station – an idea being promoted by our former Prime Minister and Deputy Prime Minister.

As illustrated in the figure below, we'd have a collective amount of capacity two and a half times larger than our biggest coal-fired power station – Eraring.

Rooftop solar capacity built in five years at current installation rates compared to top 5 coal plants



[Source: Green Energy Markets Renewable Energy Index – April 2018](#)

Now, yes, it won't be generating power all the time, but if you're concerned about reliability then you need to be focused on what you can expect when system demand is at its highest – hot days when the sun is out.

As detailed in my article – [Did renewable energy laze about over summer](#) – solar PV delivered a large chunk of its power last summer when power demand was at its greatest.

Plus, imagine if you were an investor. Would you want to sink a few billion into a big chunk of inflexible coal plant capacity that by the time it was built would face the prospect of dealing with this amount of extra generating capacity coming into the system in the middle of the day with zero operating cost? Not to mention all the solar farm capacity also coming online.

Sorry Tony and Barnaby but I think I'll pass on funding that new coal power plant you want.

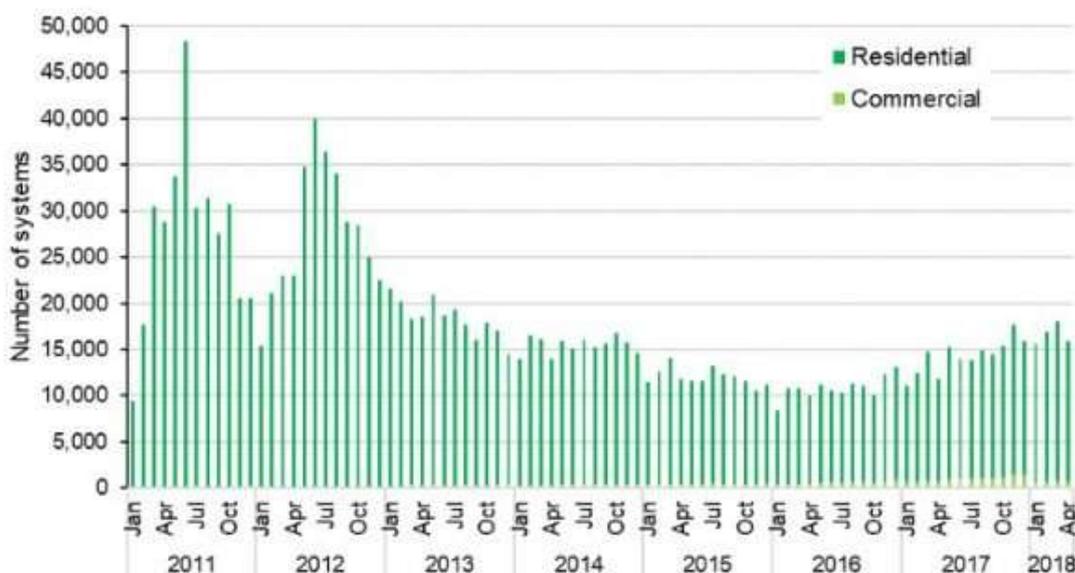
This, of course, brings me to thinking about whether consumer demand will support such a huge build out of rooftop solar capacity. The solar industry has clearly demonstrated an ability to scale-up solar capacity in line with some of the most ambitious emission reduction scenarios our politicians have been prepared to contemplate.

But just because we can, doesn't mean we will.

There is a mistaken popular belief, often heavily promoted by some in the environmental movement, that solar's story is one of just an inevitable march onwards and upwards with continuous exponential growth. But as we can see in the first chart above, rooftop solar has faced a roller-coaster of sales rather than an exponential curve.

The boom we're presently experiencing was preceded by what was a three-year decline in monthly capacity installed between mid 2013 and mid 2016. If we look at the number of systems installed we can see an even more stark decline that began in mid 2012 but has been hidden by the steadily increasing kilowatt size of systems.

Number of solar PV systems by month creating STCs



[Source: Green Energy Markets Solar Report](#)

So what turned things around in mid 2016?

In an article in April last year – [Rooftop solar enjoys second boom as fossil fuel scare campaign backfires](#) – I put forward three reasons:

Number one was the doubling in wholesale electricity prices.

In addition, the excitement about batteries, I postulated, was driving the emergence of a new market segment – technophiles. Most of these people were ultimately baulking at buying batteries once they saw the price, but the interest was driving consumer enquiries that were converting to purchasing a solar system.

The third driver I put forward was an unusual one – a PR scare campaign about renewables driven by fossil fuel interests which I entitled the Daily Terrorgraph effect.

The thing was that while wholesale power prices, particularly in the futures market, had gone up in the period preceding the turnaround in solar sales, this was yet to flow through to prices charged to end-consumers.

However, the Minerals Council and the Australian Energy Council had been waging a campaign stirring up media and political concern that extra renewables was going to undermine energy reliability and drive-up power prices.

The campaign hit its straps, generating widespread media coverage in June, when there was a large spike in wholesale electricity prices, particularly in SA. This was due to a combination of: the interconnector being down for upgrade works; a sudden cold snap driving up electricity demand; and very tight gas supplies with the gas price skyrocketing on the spot market as generators scrambled for supplies.

From that point forward the media coverage about an energy crisis was constant, and mixed in with concerns about electricity supplies was also the spike in gas contract prices due to the start-up of LNG exports.

It leaked out that Hazelwood was going to close, with Engie after some delay eventually confirming the closure could occur – in a matter of months, no less. And then the big daddy – the South Australian system black.

All the time the media coverage was fanned by a range of Liberal-National politicians who sought to get political mileage out of power price rises and blackouts by linking them to the renewable energy policies of the Labor Party.

Yet even though much of the media reportage was mistakenly blaming renewable energy for power price rises and reliability issues, it acted as free advertising for solar.

In January 2017, the rise in wholesale power prices started flowing through in earnest to the prices faced by consumers. Victorian residential consumers saw further big rises in July. Critically, east coast residential consumers also saw big rises in the feed-in tariffs retailers were prepared to pay for exported generation.

Meanwhile, the WA government, with its budget under pressure, committed to unwinding its electricity subsidies.

Another fundamentally important factor driving booming solar sales was that module prices dropped like a stone over the second half of 2016 in response to a major supply glut. Prices below 30 US cents per watt were even being reported.

Unfortunately for the solar industry (although not necessarily electricity consumers) these tail winds look to be abating.

The three charts below illustrate that prices have been declining for wholesale electricity contracts. What's interesting is that these are for 2019, but a large proportion of the renewables capacity coming through won't fully hit supply until 2020.

Prices for 2019 baseload forward electricity contracts across Queensland, Victoria and NSW



Source: ASX Energy

In many respects these declines are a sign that the renewables sector is about to become a victim of its own success.

Power prices spiked as a result of skyrocketing gas prices and the withdrawal of Northern and Hazelwood Power stations with very little notice. Since then we've seen around 9000MW of renewable capacity construction or contracting commitments in large scale.

On top of that we then have over a gigawatt of rooftop solar installed last year and the prospect of potentially 1500MW this year.

If renewables really drove up prices, as some media commentators and politicians constantly claim, you have to wonder why futures prices aren't skyrocketing now – and to the contrary are going down.

Now some of you may reassure yourselves that retailers have an array of pricing tricks that act to confuse consumers so they can avoid passing on reductions in wholesale power prices.

But this ignores something – the vast majority of electricity generated by residential solar systems is exported. Feed-in tariffs are fundamental to pay-back times and retailers will readily reduce these in response to reductions in wholesale prices.

In terms of the free media advertising, this, too, is likely to abate. While Tony Abbott may not have got the memo, it appears the leadership of the Turnbull government have come to realise that trying to blame high power prices on Labor when you've been in power for six years is not all that good a strategy for re-election.

Minister Frydenberg is talking much less about how renewable energy is driving up power prices, and instead trying to reassure households and businesses that power prices are going to come down. Also we've managed to steer through this summer without a major power shortfall, and next summer supply will be less tight.

These should all probably lead to waning media interest and they'll probably move their "cost of living editors" onto beating up on the banks.

Lastly, the incredible glut of modules turned around in the back half of 2017 to a shortage. Consequently prices rose noticeably. They will resume a decline but it won't be like what happened over 2016.

These factors will take some time to play out and flow through to changing consumer behaviour, so we still expect 2018 will be a break-out year. But don't expect 2019 to be bigger and better.