Australian Rooftop Solar Subsidy

2019 Outlook

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Executive Summary

- The SRES is one half of the Australian Government's Renewable Energy Target and offers upfront rebates to consumers installing small-scale solar power systems.

- This cost is borne by all electricity consumers as a levy charged per kWh of consumption.

- Solar power installations continue to accelerate, driven by:
    - Cheaper component costs;
    - Increasing adoption in the commercial sector;
    - Policy drivers in Victoria and South Australia and soon NSW

- In early 2018, Demand Manager forecast the cost of the SRES in 2018 to total $1.3 billion. Actual cost of the SRES in 2018 was in the order of $1.2 billion[1].

- In our LOW case scenario, Demand Manager forecasts the economy-wide cost of the SRES to increase 30% in 2019 to $1.56 billion. This will add $360 million to Australian electricity bills.

- In our HIGH case scenario, Demand Manager forecasts the cost of the SRES to increase 45% in 2019 to $1.74 billion. This will add $540 million to Australian electricity bills.

- Considering the ever-accelerating uptake of solar power in Australia, Demand Manager believes changes to the SRES could be imminent and solar power retailers should look at hedging mechanisms to protect revenue streams.

[1] The 2018 STC surrender obligation was 29.297 million certificates (CER) x 2019 average traded certificate price of $37.06 plus GST.

1. Background to the SRES

Companies and householders installing small-scale (<100kW) rooftop solar power systems in Australia receive a rebate in the form of Small Technology Certificates (STCs). These certificates are created under the Small-scale Renewable Energy Scheme (SRES) one half of the Australian Government's Renewable Energy Target (RET).

The value of STCs help defray approximately half of the cost of an average size solar power system, up to $70,000 in some cases. Solar systems are currently marketed in Australia at less than 50 cents per Watt, fully installed.

The cost of solar power continuing to fall relative to the value of the SRES rebate. While the SRES rebate dropped 1/13th on 1 January 2019, this rate of reduction is outpaced by the rapidly falling cost of solar (see sample solar adverts below).

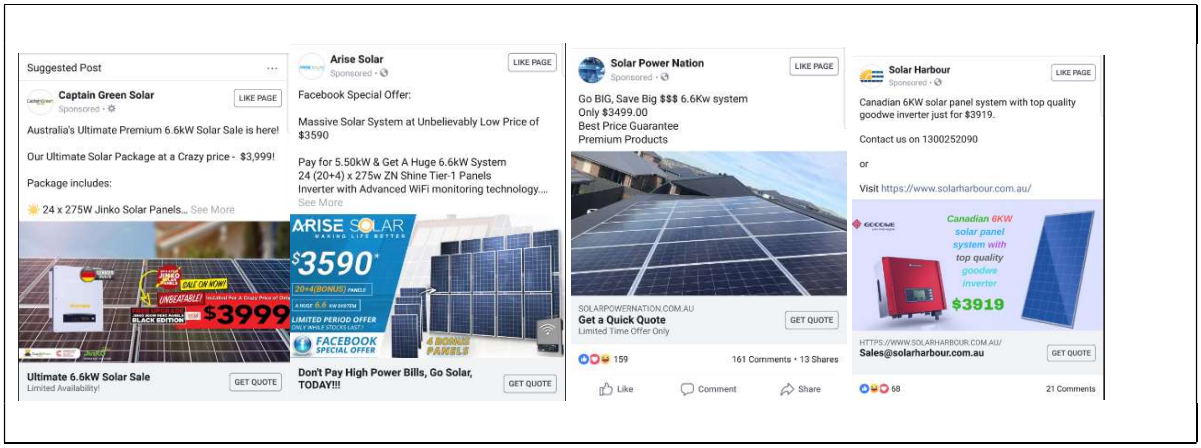

Figure 1 – Sample Solar Adverts on Facebook.

STCs must be purchased by electricity retailers to meet their licence conditions and the costs are passed through to electricity consumers via their electricity bills. GST is then added to this cost as a taxable supply.

The cost of the SRES is added to all electricity bills – residential, government and commercial – creating a direct cost to electricity consumers but also an indirect cost to all Australians as the costs as passed through to consumers.

The volume of STCs to be purchased each year is set via the Small Technology Percentage (STP) – a legislated figure set by the Minister for Energy after consultations with the Clean Energy Regulator (CER) and external modelling conducted by consultants.

2. The Boom in Rooftop Solar

The boom in rooftop solar installations in Australia through 2018 continued unabated in the first seven weeks of 2019. Recent data showed January 2019 nearly pipped October 2018 as the busiest month for rooftop solar installations in Australian history. A total of 159.4 MW was installed in a month usually affected by holidays.

Victoria overtook Queensland and NSW to become the leading state for rooftop solar in January 2019 - arguably off the back of the Andrews Government's additional $2,250 rebate announced as part of the recent election campaign. As at 18 January, some 7,000 households had installed solar, amounting to a commitment of $15.5 million[2] from the Victorian Government on top of the STC subsidy.

The rapid boom in Victoria looks set to be replicated in NSW as both major parties have promised voters additional subsidies for rooftop solar installations.

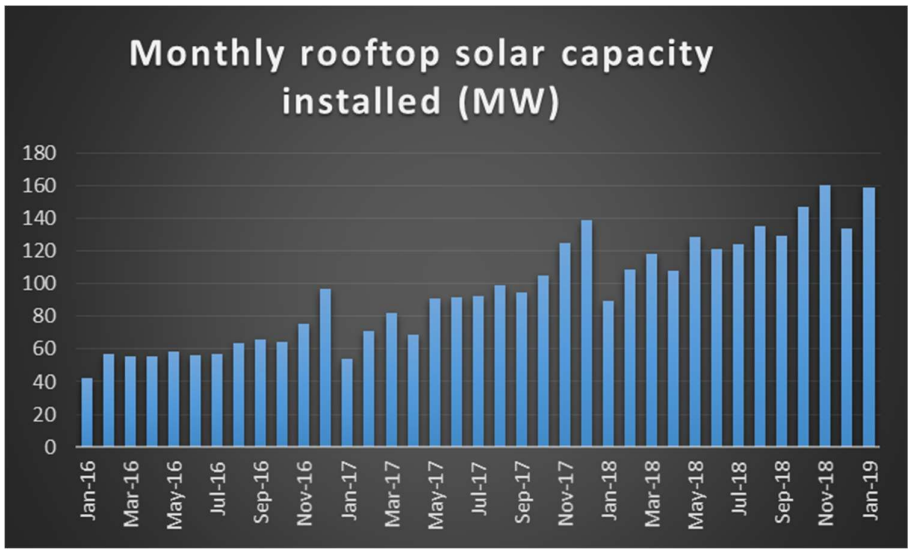

Figure 2. rooftop solar capacity installed monthly Jan 2016 – Jan 2019. Data courtesy of the Clean Energy Regulator's REC Registry.

The data for 2018 showed an average certificate creation rate of 571,000 STCs per week across the year. However deeper analysis shows that creation escalated throughout the year, rising to record creation in the last few months. The average creation figure for the last two months of the year was 730,000 per week compared to 500,000 for the first two months of the year.

[2] https://www.premier.vic.gov.au/thousands-of-victorian-homes-save-millions-on-solar/?_ga=2.166720574.1814664639.1550457694-1044338815.1550457694

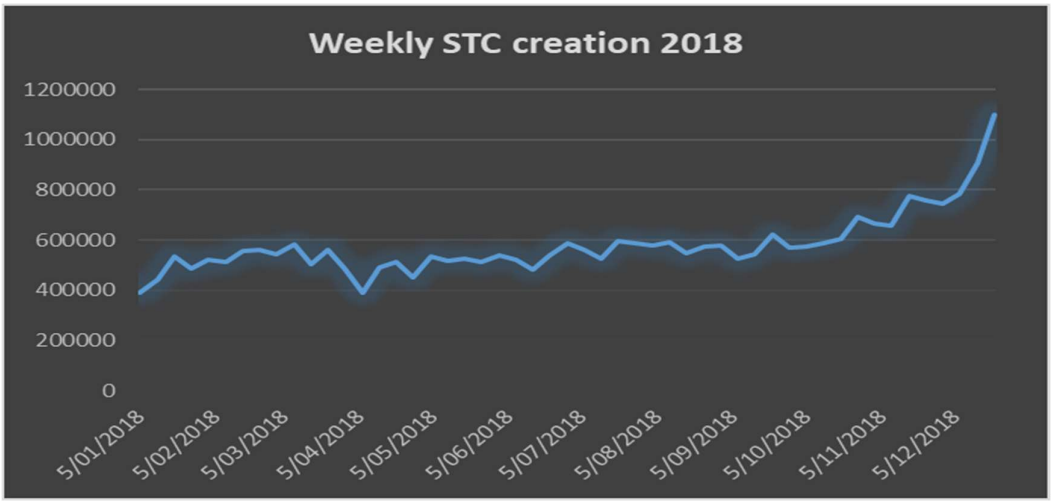

Figure 3. Weekly STC creation 2018.

The boom is being driven partly by an increase in electricity prices, but also by the sharply declining after-rebate retail cost of solar power systems. Data collected by market intermediary, Solar Choice, indicates the cost of rooftop solar has declined rapidly in recent years, see Figure 4 below.

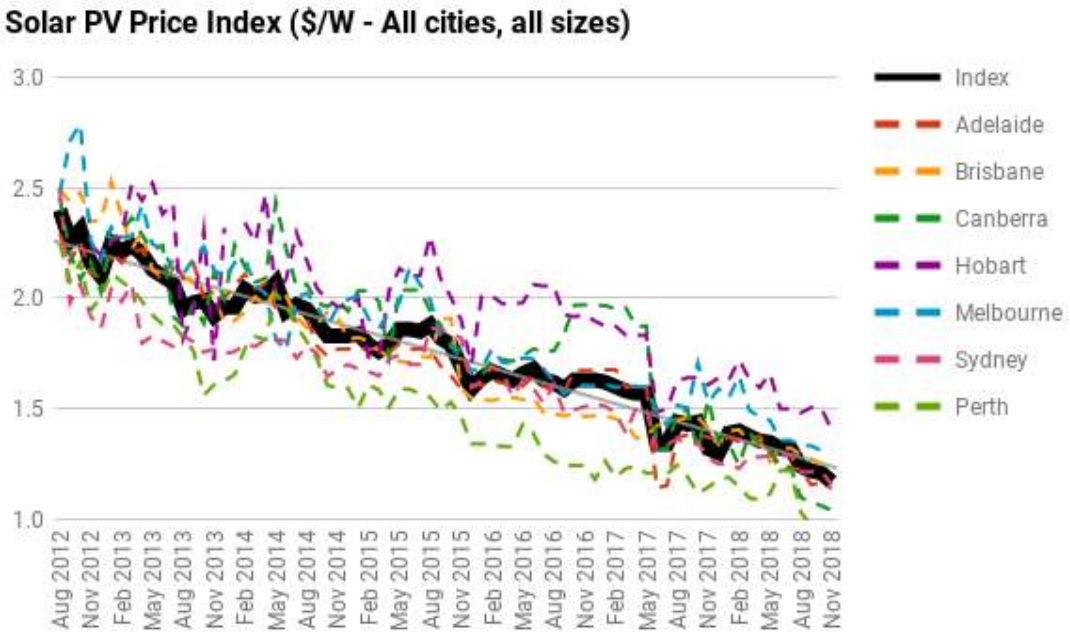

Figure 4. The cost of rooftop solar has been in decline for many years. Courtesy of Solar Choice.

3. The 2019 Small Technology Percentage

The cost of the SRES is directly related to the Small Technology Percentage (STP) set by the Minister for a given year since electricity retailers must purchase a set number of STCs to cover their liability created by the STP.

In 2018, the STP was set by legislative instrument at 17.08% which means electricity retailers needed to purchase approximately 29.297 million STCs to meet their liability. This represents a weekly "run-rate" of around 425,000 STCs after adding in the 7 million surplus STCs carried forward from 2017.

The actual average run rate for certificate creation in 2018 turned out to be 571,000 STCs – a surplus of approximately 7 million STCs created over the course of 2018.

In setting the 2019 STP, the Minister must take into account the supply of STCs coming into the market during the year along with the 7 million surplus STCs from 2018.

If the 2019 STP was set based on the current rates of solar installations for the first eight weeks of the year– equal to around 600,000 STCs per week - then total supply of new STCs in 2019 will be around 31.20 million. In addition, a surplus of approximately 7m STCs created in 2018 must be added to the 2019 target.

Therefore the 2019 STP, if set thusly, would see demand created for at least 31.2 million + 7 million = 38.2 million STCs.

However as noted above the weekly average by the end of 2018 had jumped markedly from the earlier weeks. If an increase of the same magnitude were to occur the weekly rate for the entire year would be closer to 685,000 and result in a surrender obligation of 42.6 million STCs.

The price of STCs is determined by two distinct factors:

- An external brokered market created by the supply/demand dynamic.
- Sale through the Clearing House mechanism at the current legislated price of $40. The Clearing House effectively creates a cap on the value of an STC at $40 and provides liquidity of STCs in times of undersupply.

When supply of STCs is greater than demand, STCs trade through the external market at market prices. When demand exceeds supply, electricity retailers buy through the clearing house at $40.

Based on data for broker-reported spot trades in 2018, the average STC price was $37.06 and the Clearing House was not active in any meaningful way.

At present forward prices for STCs to be delivered throughout 2019 are trading just under $37.00 – thus it is considered a reasonable estimate of 2019 STC prices.

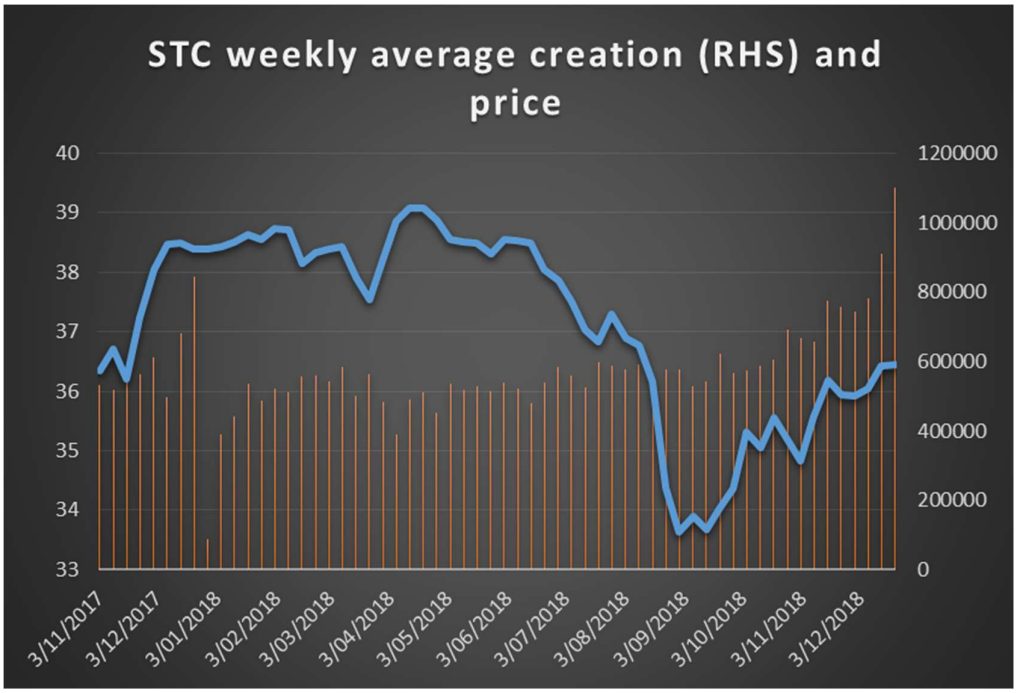

Figure 5. Weekly STC price and submissions.

Demand Manager has modelled a LOW and HIGH estimate of the 2019 STP with the resulting cost impact outlined in the table below. A LOW case is based on present rate of STC creation whereas the HIGH case builds in growth factors expected to continue through the year, especially with the roll out of Victorian and NSW Government policies.

Australian Rooftop Solar Subsidy – 2019 Outlook				
Year	**Surrender target**	**STC price (ex GST)**	**Cost (inc GST)**	**% Increase**
2018	29.297m	$37.06	$1.194 billion	
2019 – LOW	38.2m	$37.06	$1.557 billion	+30%
2019 - HIGH	42.6m	$37.06	$1.737 billion	+45%

If left unchecked, electricity consumers will be hit with an increase of **between $360 and $540 million in the cost of the SRES** starting 1 January 2019.

Far from subsidies for renewable energy decreasing and Mr Taylor being the "Minister for getting electricity prices down", it would appear the solar subsidy cost item on electricity bills will be increasing markedly in 2019.

4. Impacts of Letting the Boom Continue

In addition to the additional costs to electricity consumers of the boom in rooftop solar, there is a consumer impact on letting the industry undergo unfettered growth.

As highlighted in previous solar booms, and in other "green-scheme" activities like roof insulation, when an offer becomes too attractive, unscrupulous operators often get involved leading to sub-standard outcomes.

There have been numerous instances of cowboy operators in the rooftop solar industry including unsafe installations, unlicensed products/installers and unethical sales tactics. In recent years, the number of Enforceable Undertakings entered into by the Clean Energy Regulator has increased due to instances of non-compliance from solar installers and agents.

While the SREC provides an incentive for consumers to install rooftop solar, an overly generous rebate presents an incentive for unscrupulous operators to exploit the opportunity.

5. Potential Market Developments

From a certificate trading perspective, the increasing uptake of solar and subsequent STC creation could see Ministerial action that would impact STC price.

In order to reduce the cost of the SRES in 2019, there are two options available to the Government.

- Option 1 – Set a lower STP

The Minister must set each year's STP in the regulations by 31 March of that year. Setting a lower STP would result in the price of STCs coming down. Conversely, setting a higher STP will increase the likelihood of the Clearing House coming into operation.

In setting the STP, the Minister must consider a number of matters, primarily the expected number of STCs that will be created in that year and the deficit/surplus of certificates created the previous year. The CER engages numerous consultants to model the creation of STCs for that year and these reports typically feed into the Minister's decision.

While the Minister could theoretically choose the lowest model estimate of STC creation to set the STP, there is limited scope to fully mitigate the cost blowout as the consultants must base their model on actual STC creation rates. Also any surplus creation of certificates is carried forward to later years so the cost increase is merely delayed.

- Option 2 – Change the Clearing House Price

Section 30LA of the *Renewable Energy Act* provides a mechanism for the Minister to set a different Clearing House price.

30LA Clearing house price etc.

(1) The ***clearing house price*** is:

(a) subject to paragraph (b)—$40; or

(b) if the Minister, by legislative instrument, specifies a lesser amount as being the clearing house price for the purpose of this subsection—the amount so specified.

(2) The ***GST inclusive clearing house price*** is the amount equal to 110% of the clearing house price.

(3) Before making an instrument under paragraph (1)(b), the Minister:

(a) must take into consideration:

(i) whether the total value, in MWh, of small-scale technology certificates created in 2015 exceeded or is expected to exceed 6,000,000; and

(ii) any changes to the costs of small generation units and solar water heaters; and

(iii) the extent to which owners of small generation units and solar water heaters contribute to the costs of small generation units and solar water heaters; and

(iv) the impact of the clearing house price, and the number of small generation units and solar water heaters installed, on the electricity market, including on electricity prices; and

(b) may take into consideration any other matters that the Minister considers relevant.

Figure 4. Section 30LA of the Renewable Energy Act.

Reducing the Clearing House price would have the effect of immediately reducing the market value of STCs since the Clearing House price sets a cap for their value.

Considering the STP for 2019 is being modelled at present, announcing a change to the Clearing House price sooner rather than later could be included in the modelling estimates reasonably simply. Waiting until after the 2019 STP is announced in March 2019 would present complexities in allowing the STP to incorporate the modelled impact of the price change.

In order to keep the cost of the SRES in 2019 equal to the cost in 2018 (i.e. no increase in the subsidy for rooftop solar), then the Clearing House price would need to be adjusted downwards.

9. About Demand Manager

Demand Manager has provided financial services to the clean energy industry since 2005. We operate across a number of State and Federal Government environmental programs to assist in compliance, finance, project development and liquidity.

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