

Renewable Energy Certificate Market – Discussion Paper

Clean Energy Council

1. Introduction

The purpose of this discussion paper is to update Clean Energy Council (CEC) members and stakeholders on the current operation of the renewable energy certificate (REC) market in Australia. There has been considerable discussion in recent weeks on what is causing a lower than anticipated price for RECs. This is impacting the ability of large scale project developers to finance their projects and therefore deploy behind the expanded target.

The CEC commissioned independent advice in October 2009 by consultants IES to provide initial discussion of the possible causes of the lower REC price. Subsequently the CEC has reviewed this analysis, as well as advice from market agents, member companies and independent analysts to update understanding of the operation of this market. This is to enable the CEC to provide effective advice to government both on the nature of the current market operation, and what measures, if any, can be suggested to improve it.

The primary objective of the CEC remains the accelerated development and deployment of all clean energy technologies. The current REC market does not deliver this objective. Any solutions to address the current REC market need to be consistent with this objective.

2. Background

A renewable energy target (RET) was introduced in Australia in 2001 as an industry development policy for the clean energy industry. The purpose of the RET is to carve out a share of the electricity market to be filled by clean energy technologies ahead of a full price on greenhouse emissions. The RET allows technology developers to expand behind a guaranteed market and drive down cost through scale, learning by doing and efficient real-time management of intermittencies associated with some clean energy technologies.

The Clean Energy Council has advocated the extension of the federal government's renewable energy target (RET) as a key driver of clean energy projects in Australia. In August 2009 the federal parliament passed an extended RET to deliver 45,000 GWh of electricity from renewable sources by 2020, or around 20 per cent of Australia's total stationary supply.

Renewable energy generation under the RET scheme creates renewable energy certificates (RECs). These certificates must be surrendered each year by electricity retailers based on their share of a trajectory prescribed by the RET legislation. Around 10.5 million RECs will be surrendered in 2009, increasing up to 45 million RECs in 2020, adjusted for the same of green power and other provisions. This trajectory will be sustained until 2030 following the intervention of the CEC in February 2009.

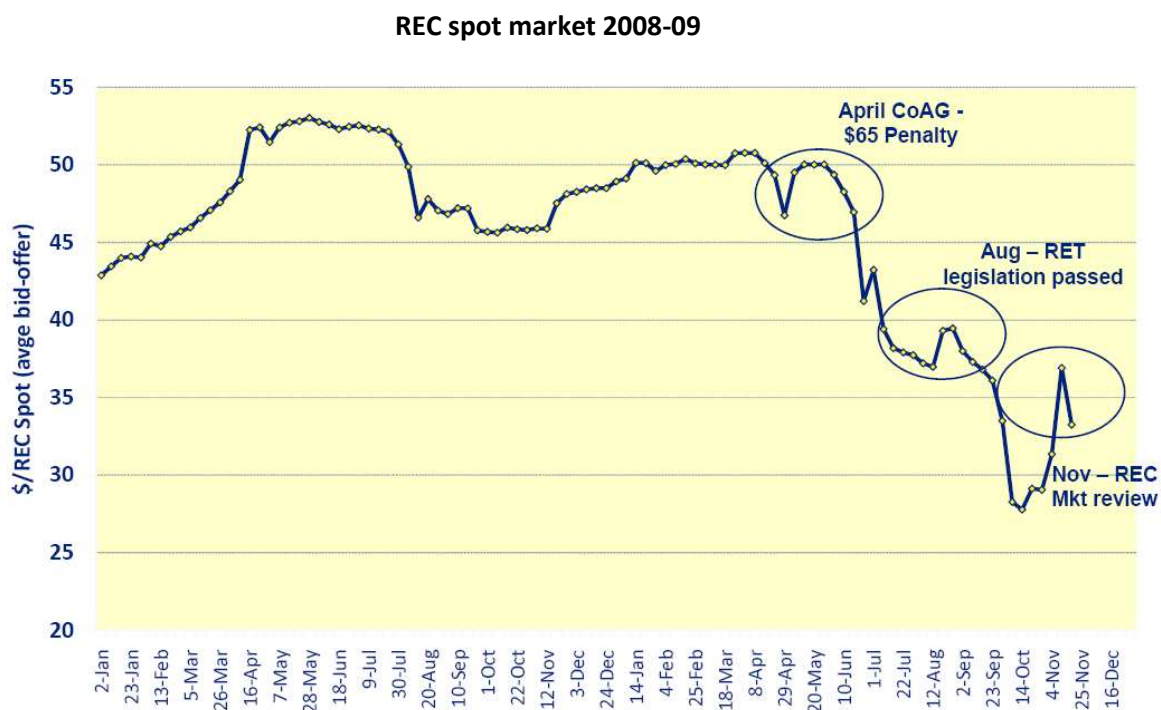
In December 2008 the Rudd Government also proposed the introduction of a solar credits "multiplier" into the RET scheme. This provides extra assistance for renewable energy generated from solar PV panels up to 1.5 kilowatts in size. Each REC generated by these projects will receive another four RECs. The provision of these "phantom RECs" acts as a

subsidy to installers of solar PV, to transition that section of the clean energy industry from a flat \$8,000 rebate for household installations offered under the Solar Homes and Communities Program (SHCP). That scheme wound up on 9 June 2009.

In principle the RET scheme is not intended to favour any technology. The market design underpinning it favours the most competitive clean energy technologies. It is by no means the sole policy measure needed to develop a world class clean energy industry in Australia. It is an important foundation for other measures to accelerate emerging technologies and encourage the changes needed to re-optimize the design of networks as they use cleaner generation technology.

3. REC Spot Price

The spot price for the REC market has experienced periods of volatility since it was created in 2001. The current prices are still around double its lowest recorded price. Most recently the spot price of RECs has fallen steadily since May 2009 and increased slightly in November 2009. At the time it was assumed that the weaker price was driven by uncertainty over whether the new RET bill - increasing the target from 9,000 to 45,000 GWh by 2020 - would be passed by federal parliament. When the RET bill passed in August 2009 there was a brief rally in the REC spot price, followed by continued falls. The REC spot price fell below \$30 in October and at the time of writing this discussion paper was trading around \$33.



Source: Green Energy Markets

Given the increase in the target, the continued weakness of the REC market surprised many in the industry. The CEC has already provided preliminary advice to members on some of the factors driving this low price. The initial advice was equivocal on the causes – the soft price was underpinned by a short term oversupply of RECs, a relatively illiquid market and short

term buying strategies by retailers undermining the incentive to hedge RECs against future liability.

These conditions are only exacerbated by continued regulatory uncertainty. The introduction of a Carbon Pollution Reduction Scheme and a carbon price will have a material impact on REC values. This process will remain uncertain at least until March 2010. The current review of the RET scheme will not be completed until March 2010 and is adding further uncertainty which only encourages short term buying strategies. The prospect of future changes to the RET will exacerbate the situation further.

4. RECs Surplus

The oversupply of REC has received particular attention in the current debate. The REC market has operated in surplus since its inception. The scale of the current surplus is considerably larger than historical surpluses and has been caused by a multi-million REC spike driven by additional government intervention. In 2008 around 8.7 million RECs were created, and around 8.8 million RECs were surrendered. In 2009 around 16.5 million RECs will be created, while only 10.5 million RECs will be surrendered. Given there was already around 6 million RECs banked at the end of 2008, this will create a bank of more than 12 million RECs at the end of 2009. This surplus exceeds the requirement for all RECs that will need to be surrendered in 2010.

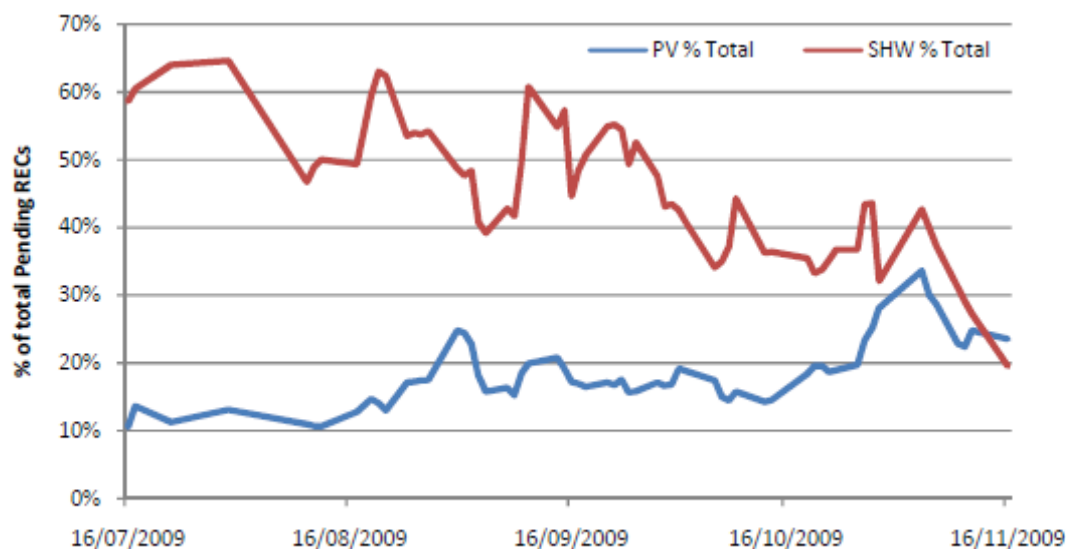
Increase in Solar Hot Water Rebate

The federal government's \$42 billion economic stimulus package included an increase in the rebate for solar hot water systems and heat pumps from \$1000 to \$1600. At the same time there was a marked increase in the installation of commercial heat pumps – which is estimated by Green Energy Markets to account for more than 20 per cent of all SHW RECs created in 2009. There was also market confusion in early 2009 between the imminent closure of solar PV rebates and solar hot water rebates, driving increased sales of solar hot water systems. Supply of solar hot water RECs increased from 1.5 million in 2007 to 3.2 million in 2008 and an estimated 7.5 million in 2009.

The creation of RECs from SHW has fallen at the end of 2009. This was driven by two factors. The federal government reduced the rebate for heat pumps from \$1600 to \$1000 in October and announced in August that all commercial installations of heat pumps would require a statutory declaration from the building owner - to confirm the scale of the system was appropriate for their hot water use.

This decline was noted in a review of the pending RECs by market analysts Ipsos in November 2009. They noted that by mid November there were more pending RECs from solar PV than SHW and expected this trend to continue as solar PV sales increased.

Pending RECs for deemed sources – solar PV vs solar hot water



Source: Ipsos

Wind Up of Solar PV Rebate

The process of winding up the \$8,000 rebate for solar panels under the solar homes and communities program created a surge in orders for solar PV systems through the first half of 2009. Aware of the pending closure of the scheme and the falling cost of installing PV systems, the solar industry reported exponential growth in sales through the first half of 2009. This ended abruptly with the termination of the PV rebate on 9 June. RECs from PV installations will increase from around 400,000 in 2008 to more than 1.5 million in 2009.

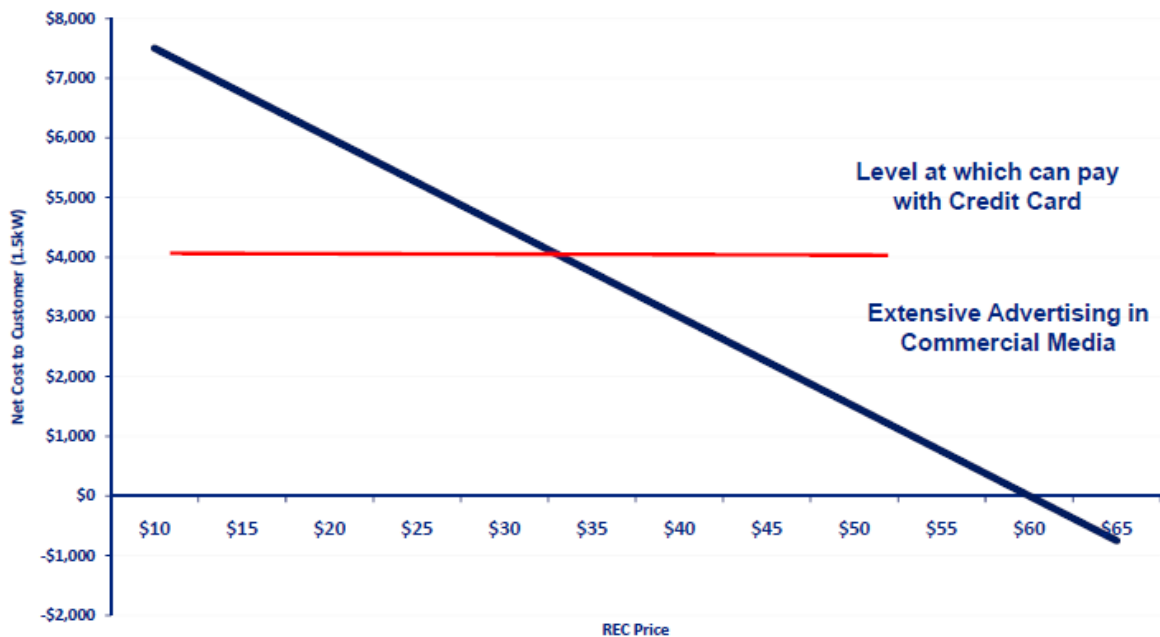
Solar Credits Scheme

In December 2008 the federal government proposed the introduction of a solar credits scheme inside the RET legislation to provide that sector with transitional support after the SHCP ended. The scheme effectively uses a multiplier to provide a rebate for solar PV installations. Domestic PV installations receive four extra deemed RECs for systems up to 1.5 KW in size. The value of the solar credits “rebate” depends on the REC price.

In the past two years the cost of supplying PV systems in Australia has fallen dramatically. Because the panels and inverters are imported, this cost has fallen even further with the increased value of the Australian dollar. Households are now able to purchase an installed 1 KW system for around \$3,000 after rebates with the current REC price.

In a presentation to the CEC in November Ric Brazzale from Green Energy Markets noted that the affordability of solar PV is now acting as an effective price ceiling on the REC market. Because of the current five times multiplier under the solar credits scheme, as the REC price increases the cost of installing solar PV falls and sales increase. This creates increased supply of RECs which pushes the price back down.

Solar PV demand curve with solar credits scheme



Source: Green Energy Markets

Under the current arrangements the REC price will struggle to get past \$40 a REC because at this price solar PV is so affordable that the increased sales and REC generation (with a multiplier) will eventually suppress REC prices. This is an unanticipated consequence of the current scheme design: lowest cost large scale generation is unable to deploy behind the RET because the REC market is currently oversupplied and the RET scheme is sufficiently skewed in favour of household scale technologies. These technology developers already face considerable other obstacles in obtaining project finance in the wake of the global financial crisis.

NSW Gross Feed in Tariff

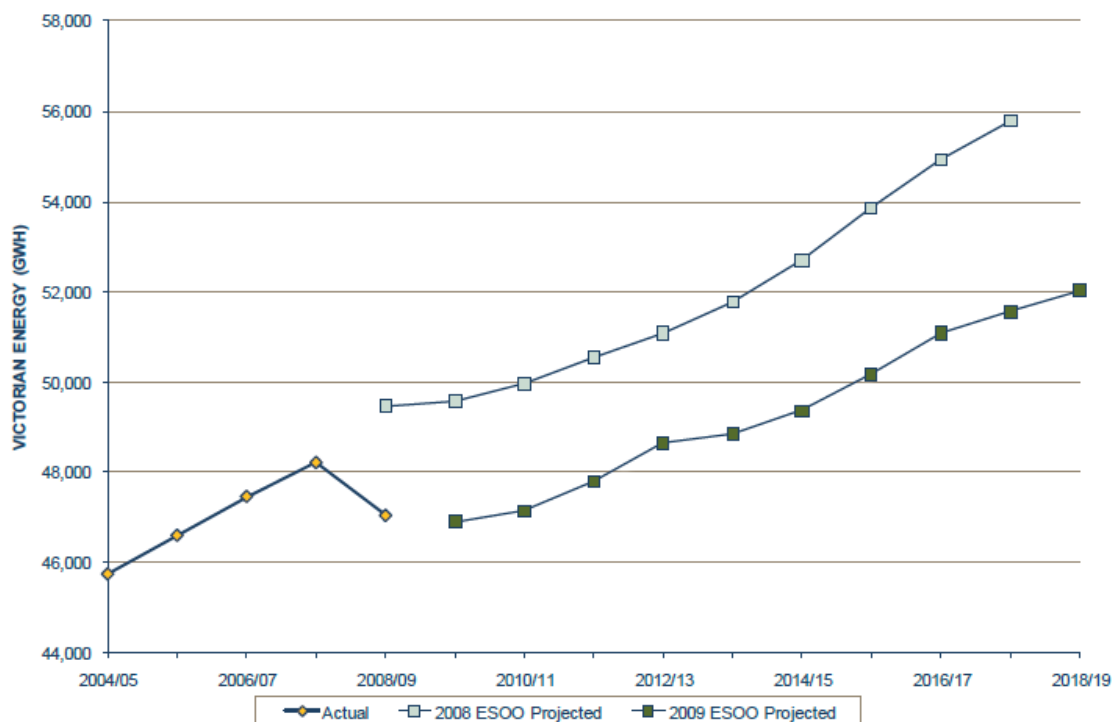
In November the NSW government announced a seven year gross feed in tariff of 60 cents a KWh for solar PV installations up to 10 KW in size. The scheme is capped at 50MW capacity, including all previous installations under the SHCP and solar credits. The effect of this GFIT on top of the existing arrangements will create a rush to install at the start of 2010, with industry participants suggesting the cap could be reached in the first half of 2010. It will add up to an extra 3 million RECs into the market, with the likelihood of further softening of the REC price as a result. In essence it will act as another source of short term “oversupply” of RECs in 2010 on top of the surplus 12 million RECs already in the market.

5. Impact of Government Interventions

The impact of these government programs in solar hot water and solar PV is material. The 2009 Electricity statement of Opportunities (ESOO) produced by the Australian Energy Market Operator (AEMO) notes that demand projects in all NEM connected states except South Australia have been pushed out by a year in 2009. Demand has fallen by 3.2 per cent in

Queensland and by up to 5.4 per cent in Victoria. This is the result of a range of factors including lower industrial load due to the global financial crisis, but also including the increased deploy of solar hot water systems and solar panels.

Comparison of Victorian annual energy demand growth projections



Source: AEMO, ESOO 2009

6. Discussion

The objective of the Clean Energy Council is to create conditions which drive the development and deploy of all clean energy technologies. The current challenge in the Australian market is that one policy measure is trying to be used to deliver this outcome for a range of technologies with different applications and costs. Australia's genuine abundance and scope of world class clean energy assets poses a policy design challenge.

Can one single measure efficiently drive large scale technologies like wind, bioenergy and hydro as well as household scale technologies like solar PV and solar hot water?

Current surplus RECs and market conditions suggest no new (non-desalination offset) large scale generation projects will be commissioned until 2013.

Further, it is difficult to see how the federal government will be able to deliver its Solar Flagships program for large scale solar without some other measure to support it. The REC price will remain at least \$100 short of the levels needed to get the most affordable large scale solar generation technologies into the grid.