Clean Energy Council submission to: Renewable Energy Target Review Issues Paper

CLEAN ENERGY COUNCIL
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INTRODUCTION

The Clean Energy Council (CEC) welcomes the Government's review of the Renewable Energy Target (RET) as an opportunity to demonstrate the effectiveness of the policy. We anticipate the evidence provided will result in recommendations that will return confidence and stability to this highly successful scheme. The RET has been critical in opening up competition in the electricity market, both at wholesale and retail levels, lowering the carbon intensity of the Australian electricity generation sector and driving over $20 billion of new clean energy investment throughout Australia.

This submission provides a detailed response to the questions outlined in the Issues Paper, as well as outlining the significant benefits of the current scheme, while identifying the challenges should the scheme be materially changed.

The RET has been repeatedly reviewed and refined and operates as a highly efficient policy mechanism. Its success is based upon a range of factors:

- A market-based approach that results in the lowest cost renewable energy being deployed
- Diversifying Australia's energy mix and creating a more competitive energy market
- Helping to lower wholesale energy prices and in turn retail electricity prices. This will reduce the nation's reliance on increasingly expensive gas-fired electricity and emissions-intensive coal generation
- Empowering Australian households to take control of their own energy supply by encouraging the installation of small scale renewable energy systems
- Creation of thousands of jobs throughout regional and rural Australia
- Investment of over $20 billion since 2001, much of it in regional areas and much of it from overseas
- Making a meaningful contribution to carbon abatement
- Ensuring Australia keeps pace with global market trends to increase the amount of renewable energy in the electricity mix – thereby attracting international investment.

The CEC believes it is important to understand these various benefits and impacts because the outcome of this review will shape the future development of renewable energy, and the energy market more broadly. Any change to the RET would put at risk the many achievements of the RET to date, and expose Australian electricity consumers to higher electricity prices. The CEC commissioned economic modelling from ROAM Consulting that quantifies these impacts and benefits in detail. The full modelling report is attached to this submission and referred to throughout.

Since 2001 the RET has delivered:

- The deployment of over 7000 MW of new renewable energy capacity, contributing to a total renewable energy capacity of 14,000 MW, and over 13 per cent of the electricity generated across Australia in 2012[1].
- The installation of over 2 million small scale solar systems in Australian homes.
- More than $20 billion investment in renewable energy technologies.
- Wholesale electricity prices as much as $10/MWh lower than if the RET was not in place[2].
- Emissions 22.5 Mt CO2e lower as a result of the RET. Without the RET Australia would not have met its emission reduction target under the Kyoto Protocol[3].

The current design of the RET scheme is projected to achieve the following:

- Household electricity bills $50 lower per year by 2020 and up to $140 per year more beyond compared to a scenario in which the RET is repealed
- 18,400 jobs will be created between 2014 and 2020. This includes 9700 jobs created in large-scale renewables and 8700 jobs in small-scale renewables[4]
- Additional investment of nearly $15 billion in today's dollars between now and 2020[5]
- Continuation of the current RET policy will mean that greenhouse gas emissions between 2014 and 2020 will be 34.7 million tonnes lower in 2020 than if it was repealed[6].

While the renewable energy industry believes the scheme is effective, there are two areas of change that are worthy of consideration:

- Removing the provision for a legislated review of the RET every two years. This has presented the single biggest challenge to the industry and the effectiveness of the scheme. Constant reviews, and the associated uncertainty and speculation, stall financing and result in sub-optimal levels of investment.
- An extension of the scheme beyond 2030 (while leaving the current 2020 target in place) to allow a more stable and efficient rate of deployment of new renewable energy projects.

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[1] CEC Clean Energy Australia Report 2012: http://www.cleanenergycouncil.org.au/policy-advocacy/reports/clean-energy-australia-report.html

[2] SKM The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy: http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/reports/2012/Benefit-of-the-Renewable-Energy-Target-to-Australias-Energy-Markets-and-Economy/Benefit%20of%20the%20Renewable%20Energy%20Target%20to%20Australia%26%23039%3Bs%20Energy%20Markets%20and%20Economy-1.pdf

[3] SKM The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy: http://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/reports/2012/Benefit-of-the-Renewable-Energy-Target-to-Australias-Energy-Markets-and-Economy/Benefit%20of%20the%20Renewable%20Energy%20Target%20to%20Australia%26%23039%3Bs%20Energy%20Markets%20and%20Economy-1.pdf

[4] ROAM Consulting, RET policy analysis, p. 3. http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/ret-policy-analysis.html

[5] ROAM Consulting, RET policy analysis, p. 4. http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/ret-policy-analysis.html

[6] ROAM Consulting, RET policy analysis, p. 4. http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/ret-policy-analysis.html

Beyond these two important areas, any material reduction or deferral of the target would have significant negative impacts on the Australian economy and energy consumers, including:

- Household electricity bills $50 higher per year by 2020, and up to $140 per year more beyond 2020, if the RET is repealed.
- The introduction of significant sovereign risk. Over $10 billion worth of investment in large-scale renewables made to date would be impaired if the LRET target was to be significantly reduced. This would have a material impact on Australian and international investors who have built projects in good faith based on the current scheme operating as legislated to 2030.
- Putting at risk nearly $15 billion of future investment in large-scale renewable energy projects expected which are projected to be delivered between now and 2020 if the RET is left as currently designed.
- A loss of jobs. Repealing the RET is projected to lead to the loss of between 4800 and 5400 jobs in the short term.
- Lost job opportunities across the economy. Repealing the RET would also mean that by 2020 8000 fewer jobs would be created in large-scale renewables and 3800 fewer jobs in small-scale renewables.
- Putting at risk future energy market diversity by stalling the development of emerging renewable energy technologies, in particular utility scale solar PV and CSP. Any reduction in the 2020 target will severely constrain the contribution of these technologies to the RET. This would result in significant loss in industry capability and activity and impact our ability to achieve the long-term mix of renewable energy technologies required for the lowest cost.
- Recombining the LRET and SRES targets, as has been suggested in the Issues Paper would damage investor confidence and see the investment disparities and problems of the previous combined target re-emerge.

The RET is a highly effective scheme, delivering renewable energy at the lowest cost to energy consumers. This is helping to diversify Australia's energy sector and driving an increasingly competitive energy market, while making a positive contribution to the Australian economy and helping to reduce Australia's emissions.

The CEC looks forward to discussing the content of this submission and the findings of the CEC's comprehensive modelling exercise with the review panel and with the broader community over the coming months.

David Green
Chief Executive
Clean Energy Council

HOW HAS THE RET PERFORMED AGAINST THE OBJECTIVES IN THE RENEWABLE ENERGY (ELECTRICITY) ACT 2000?

As the issues paper notes, the Renewable Energy (Electricity) Act 2000 has three principle aims:

- To encourage the additional generation of electricity from renewable sources;
- To reduce emissions of greenhouse gases in the electricity sector, and;
- To ensure that renewable energy sources are ecologically sustainable.

The RET continues to perform well against these three objectives:

To encourage the additional generation of electricity from renewable sources

So far the RET has driven the deployment of more than 7000 MW of renewable energy capacity, and more than $20 billion of total investment including in small-scale systems.

The RET is the single most important and effective policy in Australia in driving private sector investment in the deployment of lowest cost renewable energy technologies. The Large-scale Renewable Energy Target (LRET) has been effective at driving sufficient large-scale investment to meet the current targets. It has done this in an efficient way that has increased scale and competition and subsequently continued to reduce the cost of renewable energy.

The success of the LRET has been complemented by sustained growth in the deployment of small-scale systems under the Small-scale Renewable Energy Scheme (SRES). While the LRET scheme had an initial oversupply of certificates (carried over from the inclusion of multiplied solar PV credits) this has largely been rectified with a more balanced supply/demand scenario emerging. Modelling completed by ROAM Consulting for the CEC shows that a combination of banked Large Generation Certificates (LGCs) and new investments can meet the 41,000 GWh target as required by the legislation.

The critical issue now is to ensure that both large and small technology markets are given a significant period of policy stability to effectively bed down the changes that have come into effect over the last few years. The CEC has supported those changes and believe it is now critical the scheme be given the long-term certainty to deliver fully on its objectives and achieve the target. This requires a much higher level of certainty about the policy settings in order to give investors the confidence to commit significant levels of financing to renewable energy projects.

There is now a significant pipeline of projects, and the drivers for increased deployment written into the scheme will ensure that at least 20 per cent of Australia's energy comes from renewable energy sources.

These include:

- Strong public support for residential solar – both PV and hot water – and increasing awareness of how solar energy can protect them from rising retail electricity prices.
- Over 10,000 MW of wind farms are already approved or proposed throughout Australia. While it is unlikely that every one of these projects will be completed, this is more than enough approved capacity to meet the LRET targets. A range of

technologies and projects beyond wind energy are also well developed and awaiting policy stability and the necessary price signal to continue to deployment.

- Public support for wind energy projects remains high, despite a vocal campaign by a relatively small number of anti-wind campaigners. Recent polling indicates that nearly 70 per cent of people support wind farms, including those living in areas that already have wind projects as their near neighbours. The wind industry is focused on ensuring this strong community support continues and local communities understand the true impact and benefits of wind farms.
- Recent sharp increases in retail electricity prices (due largely to rising costs associated with transmission and distribution infrastructure) and the rapid growth in gas prices (wholesale gas prices have already doubled, with some estimates that they could triple) will continue to drive interest in small-scale renewable energy systems – namely solar hot water and solar PV – to mitigate against these rising energy prices.

To reduce emissions of greenhouse gases in the electricity sector

The RET has been particularly successful in delivering emission reductions. To date, the RET has generated more carbon abatement than any other policy in Australia. If the RET were abolished emissions from the electricity sector by 2020 would be 34.7 million tonnes higher than if it was left in place.

These emissions would need to be reduced by other sectors to achieve the government's 5 per cent emission reduction target. This may require increased taxpayer funding through mechanisms like the Emissions Reduction Fund, as opposed to the private sector investment driven by the RET.

To ensure that renewable energy sources are ecologically sustainable

The Renewable Energy (Electricity) Act includes provisions to ensure the ecological sustainability of renewable energy sources supported by the RET. For a renewable energy source to be eligible for the creation of certificates it must meet several criteria, including that the source is 'ecologically sustainable'. An ecologically sustainable source is one that is generated in a manner consistent with the principles of ecologically sustainable development. The National Strategy for Ecologically Sustainable Development summarises the principles as taking action in order to 'meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations'.

Section 17 of the Act lists 19 renewable energy sources that are considered to be ecologically sustainable and therefore eligible for the creation of renewable energy certificates.

When seeking accreditation of a power station under the Renewable Energy Target, applicants must provide evidence that the power station uses an ecologically sustainable power source and conforms to relevant planning and environmental laws.

Every large-scale renewable energy project is subject to a rigorous environmental impact assessment through the relevant state planning approval process. Projects may also require planning and environmental approval by the Commonwealth if they are deemed to potentially affect matters of national environmental significance under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act). This ensures their impact on the environment is minimised.

In addition a number of voluntary industry codes and guidelines exist to help industry follow best practice when developing projects. These include:

- Best Practice Guidelines for Implementation of Wind Energy Projects in Australia: http://www.cleanenergycouncil.org.au/technologies/wind-energy/best-practice-guidelines.html
- Community Engagement Guidelines for the Australian Wind Industry: http://www.cleanenergycouncil.org.au/technologies/wind-energy/community-engagement-guidelines.html
- Wind Farms - A Guide for Communities: https://www.cleanenergycouncil.org.au/technologies/wind-energy/guide-for-communities.html
- International Hydropower Association (IHA) Hydropower Sustainability Assessment Protocol 2010 http://www.hydrosustainability.org/Protocol.aspx
- IHA Sustainability Guidelines http://www.hydrosustainability.org/Protocol/Documents/Other-documents.aspx
- IHA Hydropower Sustainability Assessment Protocol 2010 http://www.hydrosustainability.org/Protocol.aspx
- IHA Sustainability Guidelines http://www.hydrosustainability.org/Protocol/Documents/Other-documents.aspx

ARE THERE MORE EFFICIENT AND EFFECTIVE APPROACHES TO ACHIEVING THESE OBJECTIVES?

No, given the RET has over 13 years of proven “bankable” operation and that investment certainty is underpinned by policy stability. The RET has proven to be very efficient and effective, as concluded by repeated reviews of the scheme since 2001. This is also why many countries around the world have adopted similar schemes, albeit with variations to suit the unique aspects of domestic energy markets. The design of the RET has been effective due to a variety of reasons:

- A competitive market-based measure designed to drive least cost deployment
- Able to effectively provide support for both large-scale and domestic-scale technology deployment investment
- Proven effectiveness in the absence of a carbon price or a variety of carbon policies
- Able to provide high levels of investor confidence in renewable energy from both the consumer and institutional finance sector
- Encourages the deployment of a range of renewable energy technologies and projects that increase the diversity and competitiveness of the Australian energy mix.

The RET is a proven and effective policy. While other approaches to supporting additional renewable energy are possible, the RET is established and operational. Significant changes to the approach would further unsettle investors and alternative approaches would each have their own trade-offs.

To deliver on the Act's aims of encouraging alternative, renewable energy technologies into the Australian electricity supply, a policy framework is needed that gives investors long-term certainty.

Utility scale renewable energy projects such as wind farms, solar plants, bio-energy plants or hydro generation are capital-intensive developments and require at least 15 years to recover the initial investment. Financiers have a range of investment options for long-lived assets, and to ensure that investors have confidence in renewable energy projects the policy environment needs to be stable and predictable.

The RET is an 'investment grade' policy which has supported over $20bn in investment. Altering the scheme fundamentally or replacing it with alternative mechanisms would do great damage to investor confidence and likely result in lower levels of investment, and/or higher-cost projects as a result of financial markets applying increased risk premiums to project finance.

DO THE OBJECTIVES OF THE ACT REMAIN APPROPRIATE, IN LIGHT OF FALLING ELECTRICITY DEMAND AND THE GOVERNMENT'S TARGET AND POLICIES FOR REDUCING GREENHOUSE GAS EMISSIONS?

The aims of the Act are still appropriate. There are a range of benefits of the RET and the deployment of renewable energy in Australia. These include:

- Electricity remains the largest source of greenhouse gas emissions by sector in Australia, and so it is appropriate and necessary to have policies which specifically seek to reduce the carbon intensity of that sector.
- Australia's energy sector is dominated by centralised gas and coal-fired generation. Increasingly the amount of distributed generation and the diversity of energy sources – as is achieved by the RET – helps to build resilience and increase competition in the Australian energy sector.

As argued above, the RET is the most cost-effective way to drive the deployment of renewable energy technologies at scale. Investing in an energy project with an investment horizon of 15 years or more requires long-term certainty about the policy settings that will have a material impact on the revenue sources for the investment. *This is achieved by a fixed target that provides the highest level of certainty to investors.*

This fixed GWh target also provides other energy market participants greater transparency on the level of new renewable energy generation likely to enter the market over time, and provides them greater clarity to make more informed investment decisions.

The Federal Government's policies for reducing greenhouse gas emissions are complementary to the RET, not a replacement for it. The majority of policies contained in the Direct Action Plan are dependent on direct Federal Budget support to be implemented.

The RET is itself a form of Direct Action. It provides a very targeted and direct incentive for new renewable energy. It also provides a range of benefits beyond carbon abatement (such as

increased competition in the electricity generation sector and a hedge against rising prices for natural gas impacting on consumers). It is already delivering a large part of the Federal Government's abatement target, at no cost to the budget, which gives the government a diversified range of policy tools that are not all susceptible to the same budgetary or political pressures.

Falling demand for electricity may result in renewable energy generation exceeding the estimate of 20 per cent of total electricity demand in 2020. However, as the Issues Paper makes clear, the RET is intended to ensure *"at least"* 20 per cent renewable energy generation. In reality the target has always been expressed in legislation and regulations as a fixed GWh amount, which the CEC's current modelling indicates will likely equate to approximately 22.6 per cent by 2020.[7]

It needs to be remembered that there are a number of factors that will ultimately determine how closely the GWh target aligns with 20 per cent. These include:

- Future electricity demand which is inherently difficult to predict, particularly at a time where the Australian energy market, production and consumption of electricity are undergoing quite substantial reforms and change.
- Sustained structural change to the Australian economy and its impact on electricity demand. This includes the expected decline of the manufacturing sector in Australia, the growth in Liquid Natural Gas (LNG) production and the resulting energy demand for these operations, and small business growth expected in years ahead.
- Natural variability in the output of renewable energy generation that will mean REC production and actual generation in any given year may vary.
- The output of pre-existing renewable energy generation. This is predominantly hydro based output sensitive to rainfall level. Ongoing changes in weather systems, impacts of climate change, drought and natural weather variability all contribute to uncertainty about the actual level of renewable production.
- The nature of small scale renewable energy demand and the impact that consumer preferences and broader market drivers, for what are essentially consumer products, have on the continued uptake of small scale renewable energy systems and their REC production by 2020. Although the price of solar PV panels (in US dollars) has fallen dramatically in recent years, the price of solar PV systems (in Australian dollars) has stabilised and in the short may even rise slightly as consolidation of module production continues to rebalance supply and demand internationally and depending on movements in the exchange rate.

Estimating electricity demand is an inherently uncertain task. Altering the policy framework that underpins billions of dollars in investment because current mid-term AEMO projections might suggest continued demand reductions would seriously undermine the policy certainty that needs to be at the heart of any effort to attract and sustain investment to Australia.

Furthermore, electricity demand is affected by other factors which are difficult to predict, such as the economic strength of Australia's major trading partners (affecting exports), the strength of the Australian dollar and commodity prices. Demand forecasts therefore can be a useful guide to policy makers but should not provide any justification for altering the RET at this time.

[7] ROAM Consulting, RET policy analysis, p. 5. http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/ret-policy-analysis.html

Altering the target to conform to short-term changes in any one of these factors would be a highly dubious basis for long-term change. Each of these factors are difficult to forecast, over both short- and long-term periods (as demonstrated by the historical challenges in forecasting energy demand).

HOW HAS THE RET INFLUENCED THE DEVELOPMENT OF THE RENEWABLE ENERGY INDUSTRY?

The RET has been fundamental to driving the development of the Australian renewable energy industry over the past 10 years. This has resulted in:

- Increasing scale and efficiency and in turn driving down the cost of deploying renewable energy
- Encouraging innovation, both in deploying proven technologies and seeking ways to maximise their output, but also in the development of new and exciting technologies
- Developing Australian capability in the skills and supply chains that drive innovation, local jobs and flow on economic benefits.

This has all been achieved as the result of the RET and the confidence it has provided to the Australian industry and investors. The current review and uncertainty about its outcomes present a risk that these benefits will be undone.

The RET has had a significant impact on the cost of a range of renewable energy technologies, most notably solar PV and wind. While it is true that most of the major components for these systems are manufactured overseas, the balance-of-system costs (the non-component elements, such as installation/deployment costs and business costs associated with procurement, logistics, etc.) make up a very significant part of the final cost.

These balance-of-system "local" costs have been greatly reduced as result of the scale of deployment supported by the RET. Strong competition throughout the renewable energy sector – given the market-based competition that the RET drives – has also led to continuous innovation in business models and products which have been to the benefit of consumers. There are further improvements to be made in all these areas over the remaining period of the RET legislation if the scale of deployment remains high.

Furthermore, the SRES in particular has made a big contribution to ensuring that the benefits of solar PV technology is available to the widest possible range of socio-economic demographics. Australia has a distinctly different deployment profile for solar PV than other comparable countries. Average solar system sizes are lower here than elsewhere. This is a result of the fact that the SRES provides an upfront discount on system sizes (as opposed to feed-in tariffs which offer an on-going payment to owners) which allows a broader section of the community to afford a small system which will nonetheless make a significant difference to their electricity bills. If the SRES were abolished or reduced this would substantially reduce the ability of lower income sectors of the community to access solar PV.

One other critical area has been in terms of industry integrity, particularly in the solar PV sector. The SRES requires solar installers to be accredited by the Clean Energy Council for systems to

be eligible to create Small Technology Certificates (STCs). This has ensured that the level of skills, training and oversight of the industry has been significantly higher than would otherwise be the case.

Accreditation has evolved greatly over the years as a result. The current system of 'Continuous Professional Development' has been a catalyst for sustained skills growth and consumer safety. Without the SRES to drive compliance, it is likely that professional standards in the solar industry would be significantly lower than they are today. Conversely, under the current scheme standards are rising thanks to ongoing reform of the accreditation program.

Finally the RET has also had an enormous impact on employment levels in the industry, contributing 24,000 jobs across the industry. Importantly most of these jobs and the billions of dollars in investment that go with them have been focused on rural and regional areas where alternative drivers of employment are not easily found at that scale.

These jobs and this investment have only been created because the renewable energy sector has had the confidence in the RET. Any changes to the RET could put these benefits at serious risk.

SHOULD THE LRET BE ABOLISHED, REDUCED OR INCREASED? IF RETAINED, WHAT LEVEL SHOULD IT BE? WHAT WOULD THE IMPACT OF SUCH CHANGES BE?

The current 2020 LRET target of 41,000 GWh is broadly appropriate for a number of reasons including:

- The fact that the target was legislated just five years ago. The renewable energy industry is currently very focused on delivering on this target, and removing the associated barriers to deploying renewable energy that will enable Australia to go well beyond 41,000GWh of additional renewable energy in decades to come.
- The scheme has a very modest retail cost, offset almost entirely by placing downward pressure on wholesale energy prices.

Consideration of target increase or scheme extension

The current target is seen as modest, both by many Australians who support higher renewable energy targets, and by many other countries around the world. Few of these countries have the quality of renewable energy resources that Australia enjoys, but many of them are currently legislating increasingly ambitious targets for renewable energy. Further, there are real looming challenges for fossil fuel based electricity generation in Australia:

- Increasing wholesale gas prices and supply constraints which are making gas-fired electricity generation less competitive
- The ageing nature of Australia's coal fired power stations and the inevitability of future plant retirement as they move beyond their operational life.

It is therefore logical that Australia should continue to evaluate the benefits of higher targets for the deployment of renewable energy.

One limitation of the current LRET target is the fact that the scheme target increases to 2020, and the scheme closes in 2030. This presents a material challenge for major energy projects which generally have an investment life of 15 or more years. After 2015, projects will need to account for less than 15 years' worth of REC revenue and, in 2020 when the target peaks, there will be just a 10-year period in which REC revenue is available. While ROAM modelling for the CEC suggests this does not present insurmountable challenges, it does increase the complexity and risk to the scheme's enduring success.

The CEC does not support any change to the 2020 target or deferral of the 41,000 GWh target to 2025. If the latter was to occur, consideration would need to be given to extending the scheme beyond 2030. Any extension of the scheme beyond 2030 would need to consider a range of associated issues that would arise in implementing this approach.

Consideration of target reductions

Any reduction in the future LRET target will have an immediate and significant negative impact on the renewable energy sector. In particular, over $10 billion worth of investment in large-scale renewable energy projects has been made since the RET was first established in 2001. Major Australian and international investors have made these investments on the basis of the scheme operating as it was currently legislated out to 2030.

The legislated LRET created a forward demand/supply market which allowed these investors to forecast a REC value and build this into the business case for this $10 billion worth of investments. Any reduction in the RET target in any year would impact on these investments. This would result in an immediate impairment of value of these projects, with a range of negative flow on effects – subject to the structure and nature of the particular project. In addition, it would lead to a reduction in investor confidence in both the Australian renewable energy and broader energy sectors, resulting in higher risk premiums and greater barriers for Australia to attract future capital and competitive prices.

A reduction in the target would clearly stifle the development and outlook for a range of technologies that are currently being developed and becoming increasingly cost-competitive. This would impact the likely future diversity of technologies in the Australian energy market.

Most obviously, a reduction or delay in the 41,000 GWh target by 2020 would have a disproportionate impact on the prospects for development of large scale solar plants in Australia and would increase the likelihood that wind technology alone would be used to meet the reduced 2020 target.

ARENA support is critical

Alongside the RET, the Australian Renewable Energy Agency (ARENA) is a critical institution for the development and deployment of the next generation of renewable energy technology in Australia. The level of operational funding available for ARENA has been reduced substantially over the past years. If the RET target were also reduced it is very likely that international companies looking to invest in large-scale solar would close their Australian offices and relocate elsewhere.

While the Renewable Energy Target is critical to commercialising the least-cost renewable energy technologies (predominantly wind and domestic solar at this point in time), ARENA plays a crucial role in helping to demonstrate the potential of a range of new technologies such as large-scale solar, geothermal, marine energy and storage solutions. The cost of these technologies is already coming down as a result of local technology deployment, and presents a major opportunity for Australia to take advantage of our massive renewable energy resources and protect us from rising fossil fuel prices in the longer term. With the appropriate level of resources in the future, the combination of ARENA funding and the current RET policy settings can continue to build on the significant progress made to date in this sector.

DO SMALL-SCALE RENEWABLE ENERGY SYSTEMS STILL REQUIRE SUPPORT THROUGH THE SRES? IF SO, FOR WHAT PERIOD WILL SUPPORT BE REQUIRED FOR?

The Small-scale Renewable Energy Scheme (SRES) has been a major success and has delivered significant benefits. The CEC believes that the SRES should remain as it is currently legislated. In summary, our views on the SRES are:

- The impact of SRES on retail electricity prices is small and will continue to decline. This is offset by the downward pressure that solar PV has on the wholesale electricity market.
- PV system prices have stabilised and further cost declines are expected to be much more modest.
- Incentives to small-scale PV have been wound back by over 90 per cent in the last five years through the reduction of the RET multiplier and state-based feed-in tariffs. The SRES incentive is already scheduled to be further reduced from 2017, which is appropriate.
- The SRES has leveraged significant consumer investment – over $10 billion in the last 5 years that brings system-wide benefits that deliver value for all electricity users.
- Scrapping SRES would lead to the loss of up to 6000 jobs.
- SRES makes a vital contribution to safety and consumer protection by mandating product standards and installation practices.
- There is minimal red tape associated with SRES and the processes have been streamlined to minimise the impact on the industry.

SRES has been a big success and has delivered significant benefits

Solar is the most popular energy source in Australia. More than 17 per cent of Australian voters are the direct beneficiaries of rooftop solar PV. Suburbs with the highest penetration of solar PV are typically in rural and regional communities or the outer metropolitan mortgage belt. Solar is particularly popular in areas with a high proportion of retirees and low- to middle-income suburbs where households are most concerned about rising electricity prices.

Australian households have invested more than $10 billion in rooftop PV. The SRES has been extremely successful in driving the uptake in small-scale technologies. There have been more than 2 million small-scale installations under the SRES. Most of those installations have been

solar PV (more than 1.2 million), solar hot water (more than 680,000) and air-sourced heat pumps (more than 176,000 installations). This has driven the development of a skilled workforce to meet consumer demand. It is estimated that there were 13,050 full-time equivalent (FTE) jobs in Australia's solar PV sector in 2013. The number of CEC-accredited installers has grown from just a few hundred in 2007 to more than 4600 today.

SRES also brings significant benefits to the community in addition to the obvious benefits to solar households and installers. The rapid adoption of rooftop PV has been a significant factor in the recent, unprecedented decline in overall electricity demand. This has helped to ensure that the market is well supplied, which has helped curb peak energy demand and overall wholesale electricity prices.

The impact of SRES on electricity prices is small and will continue to decline

The contribution of SRES to electricity bills is small. Costs are forecast to fall by 25 per cent in real terms in 2015-2016 and then stay low out to 2019-2020. In proportional terms the retail price contribution of SRES has already peaked at 3 per cent of the average retail bill in 2012-2013 and will continue to decline to between 0.9 and 1.0 per cent out to 2019-2020. Projections by the AEMC (2013) have been confirmed in modelling by ROAM Consulting. Table 1 (below) shows the projections by AEMC and ROAM Consulting.

Table 1 – Cost of SRES for electricity tariffs and customer bills

Component	2012-13	2013-2014	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
SRES as % of bill (AEMC, 2013)	**3.0%**	**1.9%**	**1.2%**	**0.9%**	**n.a.**	**n.a.**	**n.a.**	**n.a.**
SRES as % of bill (ROAM Consulting)	**n.a.**	**n.a.**	**1.2%**	**0.9%**	**0.9%**	**0.9%**	**1.0%**	**1.0%**

It is well documented that the cost of SRES is declining and will continue to decline (AEMC, 2013). The reasons for this include that:

- The SRES multiplier was reduced ahead of schedule and was phased down from five to one by 30 June 2013.
- Every state government has discontinued premium feed-in tariff offers. This has resulted in slowing of the uptake of PV and therefore reduction in the overall cost of SRES. It also removes the volatility previously experienced in the PV sector and challenges in forecasting deployment levels.
- The boom in solar PV generated by generous feed-in tariffs in most states created a large oversupply of STCs that was added to the Small Technology Percentage (STP) in previous years. Now that the surplus has cleared the STC creation rate will fall and costs to consumers will be further reduced.

PV system prices have stabilised and further significant declines are not anticipated

Recent media reporting has overstated price reductions in solar PV, leading some to mistakenly believe that the SRES may no longer be required. The reports are generally based on falling prices for Chinese PV panels. However for Australian consumers, there are a range of factors, beyond just the PV panel prices that determine the overall cost of installed solar PV systems. .

Table 2 (below) shows the changes in PV system prices over the last year. The average price in Australian dollars across all states and territories for a 1.5kW solar PV system has reduced by only 2 per cent. For a 3.0 kW system the average price reduction has been about 5 per cent over the last year.

Table 2 – Changes in PV system costs

	April 2014	April 2013	Change (%)
Average price for 1.5kW system ($)	3,907	3,985	- 2
Average price for 3.0kW system ($)	5,936	6,279	- 5

Source: Martin (2013 & 2014)

For a 3kW system exporting 50 per cent of generation, the annual benefits are $587 to $911, depending on which state or territory is considered (Solar Business Services, 2014). This represents a simple payback period between seven and 11 years.

Mountain and Szuster (2014) have calculated the income (from feed-in tariffs, STCs and avoided energy purchases) received by households that installed solar PV systems in the period from the start of 2010 to the end of 2012. They conclude that the average internal rate of return on purchase of a solar PV system was 10 per cent after tax.

Households that invest in rooftop PV will, on average, achieve much the same return that a utility could reasonably expect for the same investment (Mountain and Szuster, 2014). This seems reasonable and certainly does not present an argument for further reducing support available under the SRES.

The SRES incentive is already scheduled to reduce from 2017

In response to the 2012 review of the Renewable Energy Target, the previous Federal Government amended regulations to schedule a reduction of the deeming periods for solar PV and solar hot water. The reduced deeming period commences from 2017. The rebate available will be progressively reduced by about 7 per cent per year and there will be no rebate beyond 2030. This approach would seem appropriate, especially as the Bureau of Resource and Energy Economics (2012) projects that solar PV will, by that time, be fully competitive with other forms of electricity supply.

Solar brings system-wide benefits that deliver value for all electricity users

Rooftop solar PV accounts for about 2 per cent of electricity generated in Australia. Around 90 per cent of daily PV production occurs from 10am to 4pm, so PV's share of consumption is more appropriately stated as a percentage of consumption during this time, in which case PV's share of the market rises to around 5 per cent (Mountain and Szuster, 2014). Importantly, solar PV makes a predictable and significant contribution to meeting peak demand. The REC Agents' Association (2014) has estimated that during the heat wave experienced by South Australia and Victoria in mid-January 2014 solar PV contributed to reducing demand by nearly 5 per cent. Both states would have set new records for peak electricity demand if it had not been for the contribution of solar PV.

Independent analysts have acknowledged that rooftop solar PV has reduced wholesale electricity prices (Mountain and Szuster, 2014; Melbourne Energy Institute, 2013; McConnell et al, 2011). All electricity users benefit from this. It is also acknowledged that rooftop solar PV reduces the need for network expenditure. It is estimated that the rooftop solar PV installed between the start of 2010 and the end of 2012 has delivered savings in network augmentation of between $900 million and $2.1 billion (Mountain and Szuster, 2014).

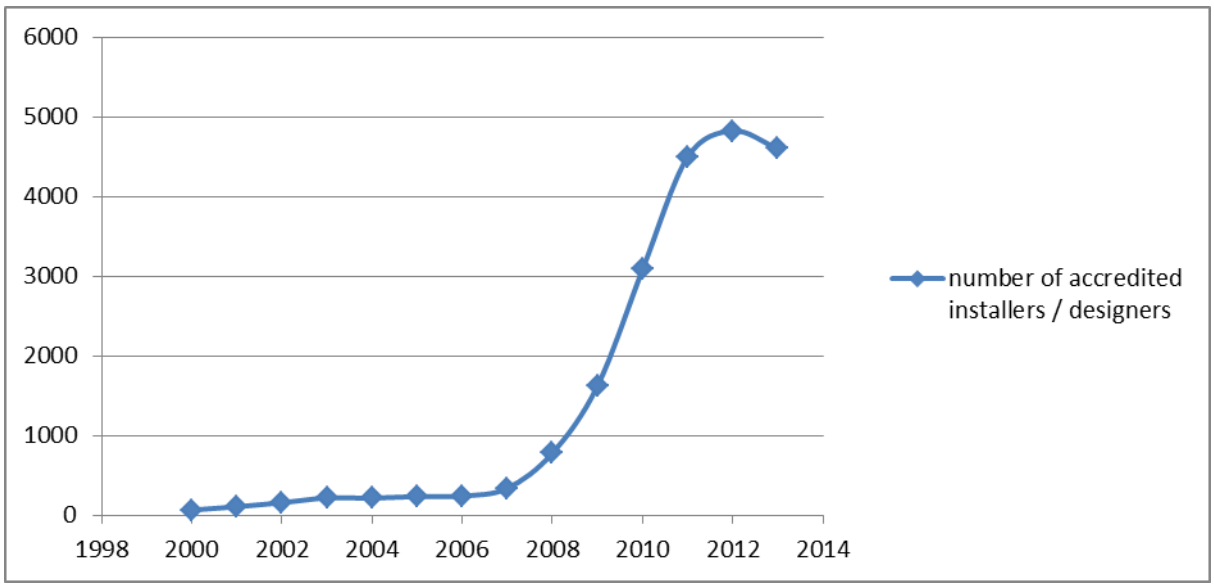
Scrapping SRES would lead to the loss of up to 6000 jobs

It is estimated that there were 13,050 full-time equivalent (FTE) jobs in Australia's solar PV sector in 2013. Employment in the sector has declined significantly in recent years. The decline in employment is partly due to a reduction in sales, brought about by changes to support schemes such as state-based feed-in tariffs and the reduction of the solar PV multiplier under the SRES scheme. It is also a result of restructuring and improved labour productivity within the sector.

All installers and designers of solar PV systems must be accredited in order to be eligible for rebates under the SRES. There are currently more than 4600 accredited solar PV installers / designers. The accredited workforce for solar PV design and installation grew rapidly between 2008 and 2011. The number of accredited installers / designers has stopped growing and there was a reduction in numbers between 2012 and 2013. This was the first time there has been a reduction in the number of accredited installers / designers.

Figure 1 (below) shows the changes in the numbers of accredited installers / designers from 2000 to 2013.

Figure 1 – Number of Accredited installers/designers



Source: CEC accreditation database, as of 23 January 2014

In 2014 CEC commissioned two highly reputable solar industry consultants to provide an estimate of the impact that the abolition of the SRES would have on employment within the solar PV sector (Solar Business Services and Sunwiz, 2014). They estimated that the abolition of the SRES would reduce PV installation volumes by 40 to 45 per cent, which would result in the loss of between 4800 and 5400 FTE jobs.

SRES makes a vital contribution to safety, consumer protection

SRES plays a vital role in ensuring high standards of quality and safety in the solar PV industry. Only PV systems that are designed and installed by accredited individuals are able to access SRES support. This provides an important financial incentive for guaranteeing ongoing professional development, accreditation and quality assurance.

CEC accreditation of designers and installers ensures there is a strong focus on the correct design and installation of PV systems, that industry best practice is followed and that consumers are provided with a system that adequately meets their needs in terms of performance and safety. The link between accreditation and access to rebates under the SRES is the basis for the enforcement of minimum safety standards under the Clean Energy Regulator's inspection program and the CEC's accreditation demerit point procedure. It enables suspension of non-compliant or underperforming designer/installers until they prove competence.

The SRES also ensures accredited installers only use 'approved' products that meet Australian Standards or, in some cases, Australian and international standards. This is an important consumer protection measure which ensures that PV products satisfy all relevant safety standards. Without this protection consumers would be exposed to risks from unsafe or low quality products. Purchasing a solar system is not a straightforward decision. Vulnerable consumers would be particularly exposed without the consumer protection afforded by SRES and the inspection and accreditation schemes associated with it.

This scheme also involves investigations regarding fraudulent re-badging of panels and other false or misleading marketing claims. Without the SRES this activity would not otherwise be undertaken.

The SRES processes, including the inspection program, have been streamlined such that any regulation burden on industry has been minimised. The benefits they provide far outweigh any red tape costs.

The SRES enables the Clean Energy Regulator to track the amount of solar PV generation on the grid. This will be an important information source for the Australian Solar Energy Forecasting System (ASEFS), which the Australian Energy Market Operator (AEMO) is currently developing. The ASEFS will make generation from distributed solar PV systems more predictable, which will inform the bidding strategies of dispatchable generators and will help to ensure stable network operation.

We strongly advise the government not to remove these incentives for quality and safety. The experience of the Home Insulation Program demonstrates the risks when governments do not provide either a financial incentive or a regulatory requirement for safety and quality.

SHOULD THE LRET AND SRES SCHEMES BE RECOMBINED?

No. Investment in large scale and small scale renewable energy is fundamentally different for the following reasons:

Differing factors	**Large Scale**	**Small scale**
Investment	Utility scale investment	Consumer goods
Financing	Equity or institutional debt financing	Cash, consumer credit or bundled with electricity billing
Other market drivers	Wholesale electricity prices	Retail electricity prices
Investment horizons	15+ years	7-11 years
Price discovery	Market based determined by least cost new entrant renewable energy project.	Capped at $40
Scheme objectives	Deliver lowest cost renewable energy projects	Provide a stable incentive for consumer uptake

These factors created significant challenges for both small-scale and large-scale technologies when combined in a single scheme. This was critical in determining to split the RET into SRES and LRET – something the CEC fully supported in 2010. None of these factors have fundamentally changed since 2010 and therefore the CEC believes SRES and LRET should remain separate, continuing to recognise the fundamentally different nature of both schemes.

The division of the RET into two schemes has been absolutely critical in stabilising the markets for both large- and small-scale investment. Separate schemes allow for different policy structures to exist for small-scale technologies (such as deeming) without disadvantaging large-scale technologies.

Moreover, the uptake of small-scale technologies (particularly solar PV) has invariably been higher than anticipated by the regulator, and separate schemes avoid the risk of certificates from small-scale technologies crowding out investment in larger-scale projects.

For sufficient large-scale projects to be delivered to meet the target there needs to be a high degree of investment certainty, which is why it is necessary for the LRET to be separated from SRES.

Finally, separate systems allow for the small-scale scheme to be uncapped, which is appropriate given the high level of interest by the community in these technologies, but in a way where liable parties have a degree of predictability about their total exposure in a given year.

WHAT IMPACT IS THE RET HAVING ON ELECTRICITY MARKETS AND ENERGY MARKETS MORE BROADLY? HOW MIGHT THIS CHANGE OVER TIME?

The RET has a complex interaction with the electricity and energy markets broadly. Although it's true that the RET has a small upward impact on the retail component of electricity bills (as electricity retailers pass on the cost of purchasing LGCs and STCs to consumers), the RET also causes downward pressure on the wholesale component of electricity bills. This is caused by a number of factors:

- By increasing the overall supply of energy supply in the market and therefore lowering the overall wholesale price of electricity
- Renewable energy generation has no fuel cost and therefore has a very low Short Run Marginal Cost (SRMC) and therefore tends to reduce wholesale prices
- Additional renewable energy defers the need for new fossil fuel-based generation, particularly gas generation which is proving to be increasingly expensive due to rising wholesale gas prices

This wholesale price suppression effect is well documented and understood by regulators and the industry but rarely acknowledged by critics of the RET. The CEC's analysis from ROAM Consulting show that the impact of the wholesale price suppression effects is, over the period to 2030, greater than the increase in costs associated with certificate purchases. In other words, removing the RET actually increases electricity prices, rather than reducing them. This is explained elsewhere in this submission.

If the RET was abolished the big loser would be Australian households. Residential power bills will be at least $51 lower in 2020 if the RET is retained in its current form compared to abolishing the RET entirely. In total, Australian households would pay at least $500m more for power in 2020 if the RET was abolished, given the increased exposure to gas prices that would result. Beyond 2020, without the current RET, household power bills could be as much as $140 higher per year.

Renewable energy suppresses wholesale prices in two ways. Large-scale technologies reduce wholesale prices because they have a lower Short Run Marginal Cost (SRMC) – due to the

absence of fuel costs – than fossil fuel generators and therefore generally bid on the spot market at comparatively low prices.

Simultaneously, embedded small-scale renewable energy generation and displacement technologies such as solar PV and solar hot water reduce demand for grid-supplied electricity.

The combination of these effects is that generators with a comparatively higher SRMC, principally natural gas-fired peaking plants but also coal-fired generation at some times, are less likely to be dispatched into the national electricity spot market. This leads to significantly lower average wholesale prices, which ultimately puts downward pressure on the final cost of electricity to all categories of consumers.

The increasing price of gas is not a function of supply and demand imbalances, but rather is a result of Australia's gas market being linked through expanded export infrastructure to international markets. There are good reasons why this decision was made, but there are also important ramifications.

The Australian Industry Group's Chief Executive Innes Willox has made this point publicly when he told an industry conference last year that "The Commonwealth and the states took the decision to allow the eastern Australian gas market to be linked to the high-price East Asian gas market. They should not escape responsibility for the unintended consequences."[8]
IES consultants have raised concerns about the limited research and analysis that has been done to consider impacts of rising gas prices:

"We believe very little cause and effect analytical work has been undertaken across the broader market to fully understand the impacts, risks and budget effects of higher gas prices, which are fast approaching. Gas consumers collectively appear to be underprepared for the flow on effects of higher gas prices..."[9]

Various research bodies have attempted to quantify those impacts in relation to household electricity prices. The Grattan Institute in Victoria recently issued a report warning that average households would face an increase of about $170 a year due to rising gas prices[10]. The Centre for Policy Development estimates that households could be paying up to $250 a year more for their electricity as a result of not only higher gas prices but also increased water scarcity impacting on output from coal-fired power plants.[11]

As the CEC's modelling[12] demonstrates, the RET is an effective hedge against the rising price of gas because it improves competition in the wholesale electricity market and encourages generation sources like wind and solar which displace gas-fired electricity on the wholesale spot market.

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[8] Matt Chambers, AiG lifts pressure on gas price, The Australian 22/10/13, http://www.theaustralian.com.au/business/mining-energy/aig-lifts-pressure-on-gas-price/story-e6frg9df-1226744087100

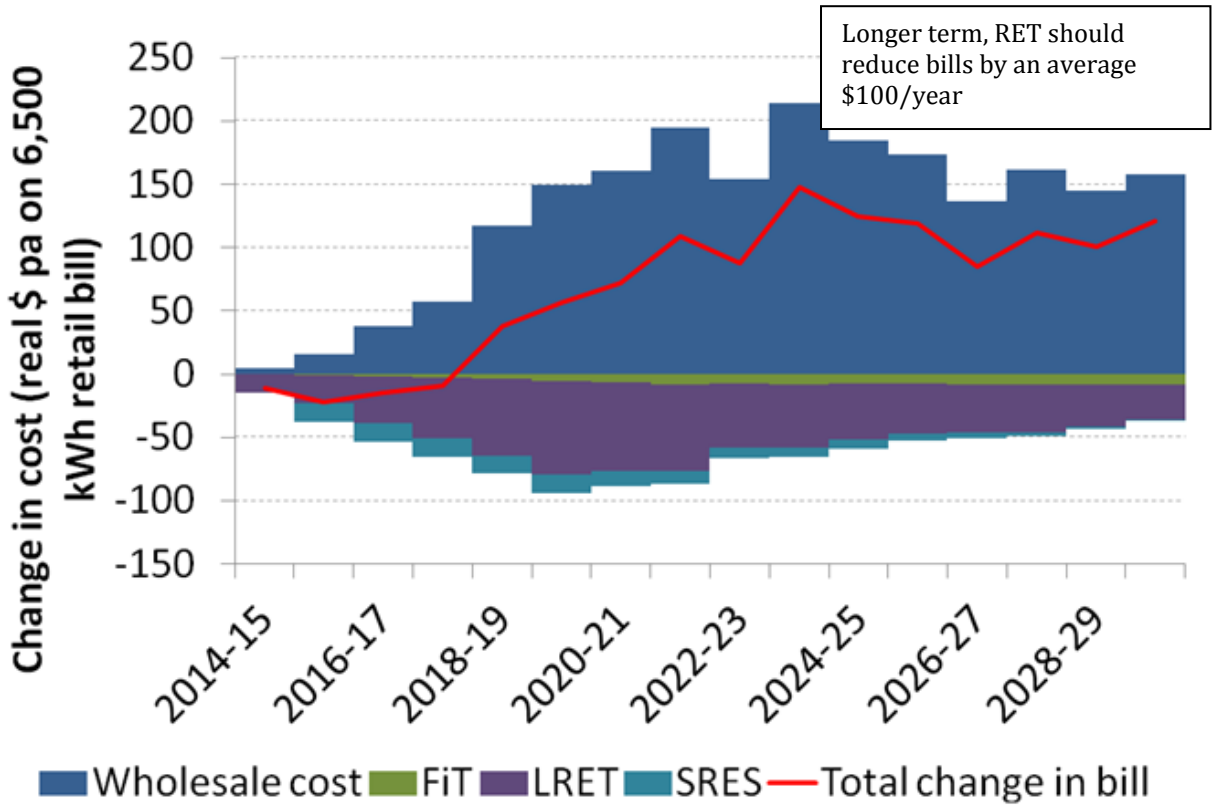
[9] Intelligent Energy Systems, Insider, Issue 14, April 2013, p.6.

[10] Tony Wood and Lucy Carter, Getting gas right: Australia's energy challenge, The Grattan Institute, June 2013.

[11] Laura Eadie and Cameron Elliott, Going Solar: Renewing Australia's electricity options, Centre for Policy Development, April 2013, p.6.

[12] ROAM Consulting, RET Policy Analysis, p.2. http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/ret-policy-analysis.html

Figure 2 – Change in retail price components in No RET scenario relative to BAU scenario



Critics of the RET sometimes question the capacity of the electricity market to effectively integrate substantial volumes of utility-scale renewable energy. But the reality is that the electricity market is effectively handling the penetration of wind energy, in part because – contrary to popular belief – output from wind farms is highly predictable.

Wind energy fluctuates in a predictable fashion, unlike large centralized power plants which can trip offline in seconds. This was well demonstrated during the January 2014 heat wave in Victoria, when one of the generating units at Loy Lang power plant tripped out unexpectedly and remained offline for 48 hours. Since 2008, AEMO has employed the Australian Wind Energy Forecasting System (AWEFS) in conjunction with the semi-dispatch of wind generation to predict and manage the output of wind farms.

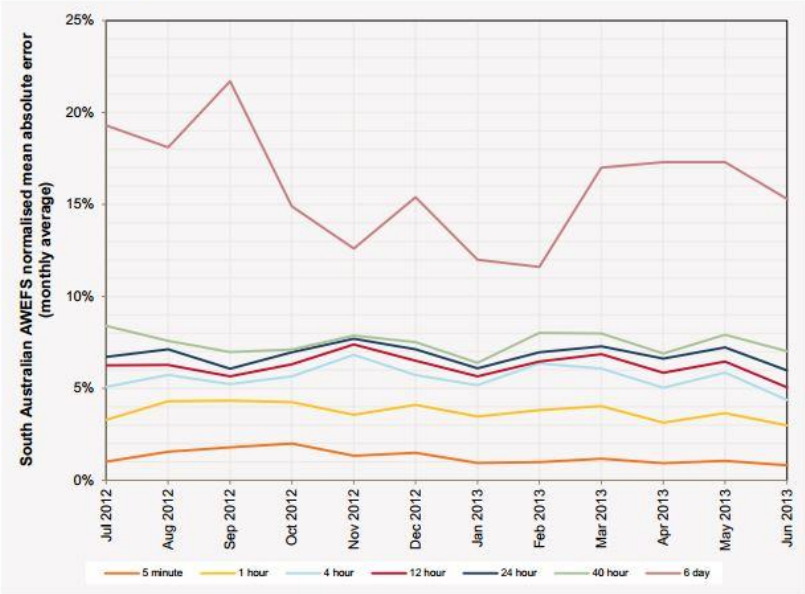
Figure 3 below comes from the Australian Electricity Market Operator's (AEMO) wind integration investigation[13], which shows the AWEFS performance accuracy assessment from its inception to October 2011. It clearly shows that AWEFS wind generation forecasts are, on average, accurate over a range of time periods. The five-minute forecast has around an error rate of about 1 per cent, and this only falls to 5 per cent error as much as four hours out. In a market

[13] Available at: http://www.aemo.com.au/~/media/Files/Other/planning/NTNDP2011_CD/documents/CHAPTER4%20pdf.pdf

where generation output is measured in five-minute intervals such a tiny error rate in forecasting is very manageable.

Figure 3 – AWEFS NEM-wide performance

Figure 3-6 — Normalised mean absolute error of AWEFS forecasts for the South Australian region 2012–13



In addition to the problem of gas prices, any alteration to the RET targets would serve to increase uncertainty, delay investment and jeopardise the efficient achievement of the target. This must be considered in the context of the recent changes to the RET as well as broader instability in the energy policy landscape (primarily carbon pricing).

The current RET was committed to during the 2007 election campaign, legislated in 2009 and then enhanced in 2010 by splitting the scheme into the SRES and Large Scale Renewable Energy Target (LRET). It was then reviewed again in a process which was only concluded in 2013. While the renewable energy industry supported these changes, it has contributed to a level of 'change fatigue' within the renewable energy investment community, and the consequent impact this has had on investment sentiment.

Any further changes to the RET targets in the short term are likely to further aggravate this. It would ultimately result in higher risk premiums and overall higher costs to deliver the target, or delays in the necessary investment that could undermine achievement of the target at the lowest possible cost.

Analysis commissioned by the CEC demonstrates that the current 41,000GWh target can be achieved, and that it can be achieved within the current prescribed penalty[14]. Further, the RET has undergone dramatic changes in recent times and a period of stability is required. Altering

[14] ROAM Consulting, RET policy analysis, p. 4. http://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/ret-policy-analysis.html

the shortfall price, either up or down, would likely have a material impact on the LGC price as the market adjusts to new incentives. This would further serve to undermine investor confidence in the scheme, increasing the overall cost to deliver it or stalling investment and undermining its achievement.

That said, it is worth noting that there are other potential barriers to the achievement of the RET target, and at the lowest possible cost. This includes:

- Challenges related to network connections for domestic and commercial-scale projects. This can take the form of limits on system size and location of embedded small-scale generation, or the cost (and lack of transparency on costs) of connecting commercial scale systems.
- State-based planning laws which restrict the location (and therefore the viability) of certain projects, particularly wind farms.
- Challenges related to the design of the National Energy Market which limit the ability of embedded generators to fully monetize all the benefits which their systems provide.

The CEC would encourage the review panel, as well as relevant state governments and the Commonwealth to consider these and the extent to which complementary polices or processes - such as up-coming Energy White Paper – could help in addressing them.

ARE THE CURRENT EXEMPTION ARRANGEMENTS APPROPRIATE?

While it is appropriate that Government consider the extent of current and future rates of exemption, it is important to recognise that the RET has both costs and benefits to electricity consumers. As summarised above, these two largely cancel each other out such that the net electricity cost impact – ignoring a range of other non-price benefits – are neutral. In considering current and future exemptions, consideration must be given to how various consumer segments are exposed to these costs and benefits.

Most significantly however, any consideration of exemptions must ensure that the overall RET target remains unchanged.

HOW SHOULD REFORMS TO THE RET BE IMPLEMENTED? WHAT TRANSITIONAL ISSUES COULD ARISE AND HOW MIGHT THEY BE ADDRESSED?

As this submission has made clear, the industry does not believe any substantial changes to the architecture of the RET are warranted, other than to remove the provision for two-yearly reviews, which has significantly undermined investor confidence in the RET. This would be consistent with the conclusions of a number of RET reviews carried out since the scheme was first implemented in 2001.

If material changes were to be made to the RET, particularly in the form of any change to the LRET target, or level of SRES incentive, then serious consideration would need to be given to

the impact on investment made in good faith, under the current policy settings. These considerations would need to include:

- The extent to which compensation should be offered to owners of existing projects, whose commercial business case was approved and financed based on the current scheme and its design.
- The extent to which compensation would be offered to project developers who have invested significantly in the pre-construction development aspects, including site acquisition, project planning and approval.
- The impact on market contracts and arrangements between market participants, including PPAs and other commercial contracts relating to the transactions of STCs or LGCs.
- The impact on the existing STC clearing house, and the STCs currently held in the clearing house.

Effectively dealing with these matters would require substantial consultation and consideration.

HOW DOES THE RET INTERACT WITH OTHER GOVERNMENT POLICIES THAT HAVE, OR WILL HAVE, AN IMPACT ON THE OPERATION OF THE RET, OR THAT IMPACT ON RENEWABLE ENERGY OR ENERGY MARKETS MORE GENERALLY? WHAT CAN BE DONE TO IMPROVE THE EFFICIENCY AND EFFECTIVENESS OF THESE INTERACTIONS IN DELIVERING INTENDED POLICY OBJECTIVES?

The RET is complementary to those policies and in fact lowers the cost to the Federal Government of achieving its 5 per cent emissions reduction target.

One of the strengths of the RET policy design is that it was designed to operate effectively alongside any number of energy and climate change policies. For example:

- The RET was implemented prior to any carbon pricing mechanism and operated effectively for almost a decade prior to any form of carbon pricing.
- The RET continued to operate effectively alongside the Clean Energy Future package. The impact of a carbon price, and the subsequent increase in wholesale energy prices, would result in a corresponding reduction in REC prices. This is part of the elegance of the RET design in that its competitive market-based approach ensures the REC price adjusts naturally to a level required – all other things being equal – to deploy the next most competitive project.
- The RET will continue to operate effectively following the likely repeal of the Clean Energy Future package and the implementation of the government's Direct Action policy.

Other state and federal policies which had historically impacted the RET, such as feed-in tariffs or the Solar Credits Multiplier, have been abolished and therefore will not have an enduring interaction with the RET.

CAN THE ADMINISTRATIVE ARRANGEMENTS OF THE RET BE SIMPLIFIED? IF SO, HOW CAN THEY BE SIMPLIFIED AND WHAT WOULD BE THE RISKS OF DOING SO?

The RET scheme has been reviewed repeatedly since it was established in 2001. Further, the Clean Energy Regulator – and its predecessor the Office of Renewable Energy Regulator – has played an exemplary role in continuing to review and refine the administrative functionality of the scheme.

Therefore the current administrative arrangements are generally effective and do not jeopardise the ability of the renewable energy industry to achieve the current legislated targets.

That said, the shortfall charge is an important driver for the delivery of renewable energy projects and achievement of the ultimate target. It should be noted that the shortfall price is set in real terms, meaning that its effective value will decline over time. This is appropriate given the cost of renewable energy technology is expected to continue to decline, due to a number of factors:

- Technology innovation and development that deliver lower costs in manufacturing or installation
- Increased knowledge and scale that drive greater efficiency and lower cost
- Increased global production.

There can however be short-term aspects which can either stall this trend or even momentarily increase the cost of renewable energy projects. This might include shifts in global demand for various technologies, Australian or international currency movements, anti-dumping provisions or changes in related policies (such as planning which may increase the cost to deploy particular technologies). In addition to these factors, the actual price of RECs necessary to deliver the RET over time will also be impacted by the wholesale energy price. This is driven by a broad range of factors and uncertainties, not least of which is the current and future carbon pricing policy and its subsequent impact.

Ultimately the CEC supports the establishment of the penalty price at a level above the expected maximum REC price to deliver the 41,000 GWh target with the lowest cost renewable energy technologies. As outlined above this is dictated by many factors and great care should be taken in trying to anticipate this cost over time.

SHOULD ANY OTHER ENERGY SOURCES BE INCLUDED IN THE LRET? SHOULD ANY NON-RENEWABLE (BUT LOW-EMISSIONS) ENERGY SOURCES BE INCLUDED?
SHOULD ANY NEW SMALL SCALE GENERATION TECHNOLOGIES BE ELIGIBLE UNDER THE SRES?
SHOULD ANY NEW DISPLACEMENT TECHNOLOGIES BE ELIGIBLE UNDER THE SRES?

Any change to the current list of eligible renewable energy sources is likely to impact the overall supply of RECs and therefore impact on the level of investor confidence in the current scheme. Technology eligibility has been reviewed on numerous occasions and over a long period of time. Any call for this to be re-examined on the basis that a new source of (currently ineligible) technology seeks the incentives of the current RET, should be resisted.

In particular the Renewable Energy Sub Group (RESG) of COAG considered this issue in detail and found; "*RESG's recommendation is to not extend eligibility under the RET to any new small-scale technologies"* going on to say that to do so would *"mean an unacceptable level of uncertainty regarding the potential impacts... particularly on electricity prices"*.[15] The CEC does not believe there have been any material changes in technology development since to warrant a change in these circumstances.

WHAT SHOULD BE THE FREQUENCY OF THE STATUTORY REVIEWS OF THE RET?

The RET policy was first announced in 1997, and was followed by a rigorous and protracted process – including technical experts, market analysts and substantial consultation with renewable energy businesses – to investigate the most effective design and implementation of the scheme. Following its commencement in 2001, a comprehensive review was conducted in 2004. The 2007 commitment to expand the target followed further substantial review and consultation. This occurred again in 2010 when the scheme was enhanced, and then again in a review that was only completed (in terms of government response and implementation of recommendations) in 2013. Each time the many key design elements of the scheme have been analysed and assessed with a general conclusion that the scheme is functioning as required and driving additional renewable energy into the Australian energy sector.

Each time these reviews or changes are undertaken, investment in renewable energy deployment stands still. The uncertainty and changes proposed through such process simply undermine investor confidence and result in deferment of investment decisions.

The legislated review is likely to take approximately one year from official commencement until government response, and potentially longer should change be regulated or legislated. The legislated two-yearly review period presents the most substantial risk to the achievement of the current target because they slow or defer investment. At the very least, this drives up costs.

While the renewable energy industry welcomes scrutiny of the RET, the impact of the reviews – ignoring the materiality of any subsequent scheme change – are a critical concern for the industry. The CEC recommends that the mandatory review provisions should be removed from the legislation. Future governments are obviously free to review the scheme at a time that they may deem necessary or appropriate, and this point in time is very difficult to predict and therefore legislate in advance.

[15] Renewable Energy Sub Group, COAG Review of Specific RET Issues, Report to the Council of Australian Governments' Select Council on Climate Change, March 2012, p.35.

If the government did see it necessary to legislate the timing of future reviews, CEC would suggest the next review should be set for 2020, or at a minimum every four years. The scope of any future review should also be narrowed such that those aspects of the scheme that are well established and have been reviewed repeatedly over the past decade, should be removed from the scope. Other aspects should include a narrower scope, such as that a future review could only consider increasing the target (rather than any reduction).

WHAT ADMINISTRATIVE AND REGULATORY ARRANGEMENTS SHOULD BE PUT IN PLACE TO ENSURE THAT THE REINSTATEMENT OF NATIVE FOREST WOOD WASTE IS CONSISTENT WITH THE SUSTAINABLE MANAGEMENT OF NATIVE FORESTS?

The CEC supports the use of native forest wood waste to generate energy only where it can be verified as coming from sustainably managed forests. An appropriately rigorous and broadly agreed-upon standard for ensuring the methods and locations of timber harvesting are environmentally sustainable is essential for native forest wood waste to be counted as a renewable energy source.

CONCLUSION

The Clean Energy Council (CEC) welcomes the Federal Government's review of the Renewable Energy Target (RET) as an opportunity to demonstrate the effectiveness of the policy. We believe that our submission has outlined, in detail, the benefits of the RET as currently designed, and the significant risks to the Australian economy and electricity consumers where it be changed.

We look forward to discussing these issues with the panel and the government.