14 September 2012

Submissions
Climate Change Authority
GPO Box 1944
Melbourne, VIC 3001

Via email to: submissions@climatechangeauthority.gov.au

Re: Submission to the Renewable Energy Target Review Issues Paper

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Infigen Energy appreciates the opportunity to make a submission to the Climate Change Authority's (CCA) Review of the Renewable Energy Target (RET).

Infigen Energy (ASX: IFN) is an Australian Securities Exchange listed specialist renewable energy business with interests in 24 wind farms across the US and Australia. Infigen Energy is the largest owner and operator of wind energy facilities in Australia (557 MW) with six major wind farms in Australia capable of producing approximately 1,600 GWh per annum, or enough energy to supply over 200,000 homes annually. Infigen also has a significant pipeline of solar and wind development opportunities in Australia. In the United States, Infigen Energy has equity interests in 18 wind farms (1,089 MW).

Before responding to the individual questions, we would like to take this opportunity to make the following general observations.

The two most significant impediments to the Large-scale Renewable Energy Target (LRET) scheme working efficiently and effectively, and as it was intended, are the large surplus of Large-scale Generation Certificates (LGCs) and the perception that Government(s) may make future changes to the scheme.

The first impediment has been largely addressed by the separation of the RET into the LRET and Small-scale Renewable Energy Scheme (SRES), and in time, the LGC surplus will diminish.

The perception that Governments might adjust or vary the LRET legislation in a way that weakens the scheme is a continuing problem, and an impediment to liable parties (both retailers and large electricity customers) signing long term contracts to meet their expected liabilities. Notwithstanding the Government's and the Opposition's bipartisan commitment to the RET, the perceived regulatory risk is significant and is exacerbated by the current broad scope of biennial reviews that give rise to an expectation of potentially significant changes to the LRET legislation every two years.

It is Infigen Energy's view that regulatory predictability, fostered by recommending no changes to the LRET scheme, will result in increased

investor confidence and should be one of the most important guiding principles of the CCA's review.

Infigen will address most of the questions in the Issues Paper; however, there are some questions, particularly with regards to the details of the Small-scale Renewable Energy Scheme (SRES) and emissions-intensive, trade-exposed industries, that are not applicable to our business, and therefore we will leave those questions for others to respond.

Large-scale Renewable Energy Target

Are the existing 41,000 GWh LRET 2020 target and the interim annual targets appropriate?

Infigen considers that the existing 41,000 GWh target and the interim annual targets are appropriate and any amendment would lead to regulatory uncertainty for the LRET scheme and a consequential loss of investor confidence.

What are the implications of changing the target in terms of economic efficiency, environmental effectiveness and equity?

A reduction in the target or "stretching out" of the LRET scheme would decimate investor confidence and introduce a very significant increase in perceived sovereign risk for investing in large scale infrastructure projects in Australia.

In addition, such action would result in an immediate, and significant, drop in LGC prices which would have two detrimental consequences. Companies owning LGCs (or having entered into contracts to purchase LGCs) would see the value of their LGCs decline significantly which would be an inequitable outcome. In addition, investment in renewable energy projects would stall as there would be sufficient LGCs to meet the obligations for liable parties for many years to come due to the reduced LRET target.

In terms of economic efficiency, scaling back the RET scheme is an ineffective and inefficient means to try to reduce retail electricity bills for several reasons:

- By all accounts, the largest driver of retail electricity price increases has been dramatic rises in transmission and distribution network charges.
- According to NSW's Independent Pricing and Regulatory Tribunal (IPART), the current annual cost of the LRET scheme is only $38/household, or about 2% of residential retail electricity costs. Therefore, it is clear that changes to the LRET cannot deliver meaningful reductions in retail electricity prices.

- The cost impact of the RET scheme is going to decline very rapidly---even without any changes to policy settings. This is due to a dramatic reduction in SRES costs (shown in the graph below from the AEMC[1]) as the bonus multiplier is reduced and the rate of small scale generation uptake decreases. It is worth noting that **the cost of the SRES scheme is estimated to fall from 0.5 cents/kWh to 0.15 cents/kWh from 2011/12 to 2013/14.**
- A recent report issued by Bloomberg concluded that cutting the LRET target is not a cost effective policy. The report states,

> *"Origin Energy's proposal to lower the Large-scale Renewable Energy Target (LRET) from 41 to 27TWh is likely to fail a requisite cost-benefit analysis. Lowering the target would halve future investment in large-scale renewables, whilst decreasing the cost of the scheme by only 26%.[2]"*

Figure 3.21 Forecast STC costs under the reference case

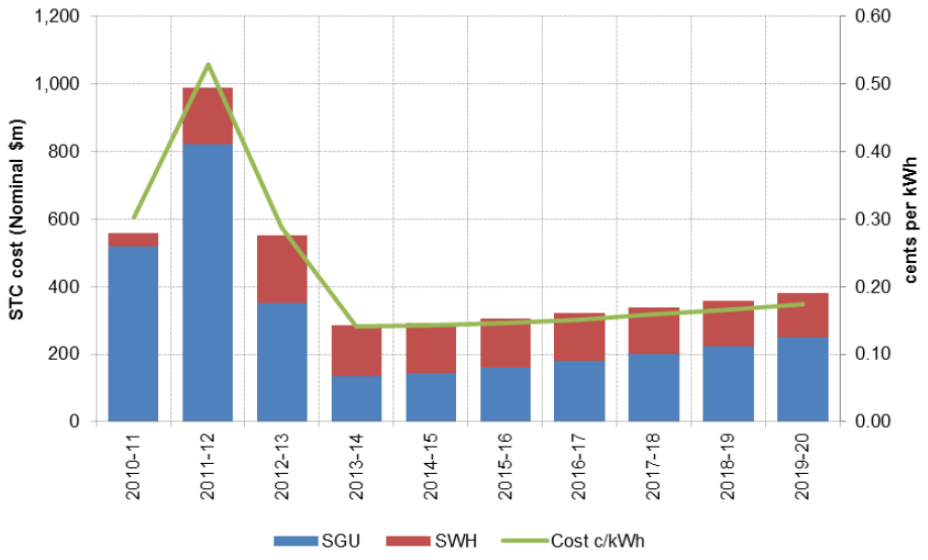

Figure 1: AEMC graph documenting the impending decline in SRES costs

From an environmental perspective, it is clear that reducing, or stretching out, the LRET target will cause an increase in particulate and greenhouse pollution compared to the existing LRET target which is obviously undesirable.

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[1] *Impact of the enhanced Renewable Energy Target on energy markets*, Interim Report, Australian Energy Market Commission (AEMC) November, 2011

[2] *What to expect from Australia's Renewable Energy Target review* Kobad Bhavnagri, Bloomberg 9 Aug 2012

Is the target trajectory driving sufficient investment in renewable energy capacity to meet the 2020 target? How much capacity is needed to meet the target? How much is currently committed? Has the LRET driven investment in skills that will assist Australia in the future?

As previously mentioned, the LRET would have driven more investment in renewable energy capacity if the unfortunate blow out in the LGC surplus had not occurred. That being said, there are signs that the LRET, in combination with the Carbon Pricing Mechanism, is starting to work as intended as can be seen by the three large wind farm projects (Boco Rock, Taralga, and Mt. Mercer) announced to be proceeding to construction last week.

Infigen Energy is very confident that the LRET will be achieved as long as the electricity industry and investors are confident that the target, trajectory and shortfall penalty price will not be reduced. LRET is a mandatory scheme with a significant shortfall penalty; private enterprise is very successful in finding ways to satisfy an ongoing market. As an example, despite doubts at the time, the original MRET target of 9,500 GWh was achieved years before its 2010 deadline.

According to our analysis of the REC Registry, there are over 3200MW of new renewable energy plants registered under the LRET scheme. While the amount of new capacity investment is dependent on a number of assumptions, it is expected that about 7000 MW of new renewable energy plant will be required to achieve the 41,000 GWh target. A recent study by Sinclair Knight Mertz[3] estimated that the LRET scheme will result in $17 Billion of wind energy investment throughout the rest of the decade ***in Australia.*** This figure does not include importing of components from overseas, but does include tower segments manufactured by companies like Keppel Prince in Victoria, RPG in SA and Queensland, and Haywards in Tasmania from Bluescope Steel.

In the context of other climate and renewable policies, is there a case for the target to continue to rise after 2020?

The LRET scheme and carbon price mechanism are complementary measures to cost effectively reduce greenhouse gas emissions. The LRET scheme tends to reduce the carbon price in an ETS, and the carbon price tends to reduce the required price of LGCs necessary to make investment in new renewable energy projects viable.

As previously stated, Infigen advocates no changes to the LRET scheme. However, should the current carbon price mechanism be removed or substantially reduced, then consideration may well be required at the next RET Review in 2014 to increasing the LRET target beyond 2020, raising the non-indexed shortfall penalty, maintaining a target beyond 2030, and/or making other changes to maintain investment momentum for new renewable energy plants.

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[3] http://www.cleanenergycouncil.org.au/resourcecentre/reports.html

Should the target be revised to reflect changes in energy forecasts? If so, how can this best be achieved – as a change in the fixed gigawatt-hour target, or the creation of a moving target that automatically adjusts to annual energy forecasts? How should changes in pre-existing renewable generation be taken into account? What are the implications in terms of economic efficiency, environmental effectiveness and equity?

Infigen Energy, and the great majority of companies in the electricity industry, strongly advocates maintaining a fixed renewable energy target (of 41,000GWh per year). Some of the reasons for this are well argued in the Issues Paper and its excerpts from the Tambling Review. Some other reasons are as follows:

- While AEMO's historical demand figures are accurate, about 1500 MW of rooftop PV (and growing) and about 600MW of older wind farms (before the semi-scheduled rule change came into effect) are accounted for by AEMO as "negative demand", rather than generation, thereby significantly understating actual electricity consumption. Therefore, the AEMO electricity demand estimates for 2020 quoted by some companies are significantly underestimating electricity consumption in 2020.
- AEMO has amply demonstrated that accurately forecasting electricity demand, even one year in advance, can be challenging. It is unrealistic to expect AEMO's forecast for electricity demand in 2020 to be accurate, or to be very stable from one year to the next.
- It is much easier to hit a stationary target. Retailers and other liable entities need to know what their LGC obligations are in order to build plants and/or procure sufficient LGCs to meet their obligations. If the target is changing every year based on annual AEMO forecasts, an increase in forecast electricity demand could leave some liable entities short LGCs through no fault of their own.
- The price of LGCs has historically been rather volatile as shown in Figure 5.3 of the Issues Paper. If the LRET target was reset every year, this would significantly add to the volatility of LGC prices as a any unexpected change in AEMO's electricity demand forecast would inevitably lead to a sharp change in LGC prices. The opportunity for trading of LGCs based on inside knowledge of AEMO forecasts of electricity demand in 2020 would present another troublesome risk to manage.
- Last, but not least, a reduction in the LGC target from 41,000 GWh has many undesirable and inefficient outcomes that should be avoided as discussed previously.

What are the costs and benefits of increasing, or not increasing, the LRET target for Clean Energy Finance Corporation-funded activities? What are the implications in terms of economic efficiency, environmental effectiveness and equity?

The primary benefit of increasing the LRET target for CEFC funded projects is to avoid the CEFC "squeezing out" other renewable energy projects also seeking to earn LGCs to satisfy the same LRET target. In addition, if LGCs earned by CEFC funded projects were added to the LRET target, this would enable the CEFC's activities to cause an incremental increase in renewable energy generation over what would have otherwise occurred. While there is some merit to these arguments, Infigen does not consider that the LRET target should be changed based on CEFC participation.

The CEFC does not begin operations until July, 2013---just a few months before the next Federal election. As with the Carbon Price, there is some political uncertainty with regards to the future of the CEFC. Should the CEFC continue to operate well into this decade, as Infigen Energy agrees it should, then it is possible that this topic may be worth further consideration in future RET reviews.

Is the calculation of individual liability using the Renewable Power Percentage the most appropriate methodology? Is it appropriate to set the Renewable Power Percentage by 31 March of the compliance year?

Infigen Energy considers that the timing and calculation of the RPP is appropriate and working well.

Is the shortfall charge set at an appropriate level to ensure the 2020 target is met?

The current tax effective shortfall penalty price of $92.86/MWh is appropriate and sufficient to enable the 41,000 GWh renewable energy target to be achieved---as long as investors and the industry have confidence that the LRET target will not be reduced or stretched out.

Some modelling has predicted that the LRET target may not be achieved if the carbon price is repealed. While Infigen agrees that a carbon price is complementary, and beneficial to the LRET scheme, we do not agree that the LRET target cannot be achieved without a carbon price. The current Long Run Marginal Cost (LRMC) of a wind farm is around $90-105/MWh depending on a number of factors including wind resource, turbine prices, construction costs, etc. As the current tax effective shortfall penalty is close to a wind farm's LRMC, the shortfall penalty is sufficient, when added to the sale of electricity (at pre-carbon tax prices of ~$30-40/MWh), to drive sufficient investment in new wind farms (& other technologies) to meet the LRET target.

Are there other issues in relation to the liability or surrender framework the Authority should consider?

Infigen Energy does not favour any changes to the LRET legislation.

However, at such time in the future when changes to the RET legislation are contemplated, Infigen Energy would suggest that consideration be given to having LGCs surrendered quarterly to increase liquidity in the market. While liable parties might consider this to be an additional burden, STCs are surrendered quarterly today, so the increase in regulatory costs should be minimal.

Is a list approach to 'eligible renewable sources' appropriate?

Infigen consider the list approach to be appropriate.

Are there additional renewable sources which should be eligible under the *REE Act*?

No, Infigen does not favour adding any additional renewable sources at this time.

Should waste coal mine gas be included in the RET? Should new capacity of waste coal mine gas be included in the RET?

As waste coal mine gas is already included in the RET, this is essentially a fait accompli. Excluding waste coal mine gas at this point would result in further regulatory uncertainty and perceptions of increased sovereign risk.

However, Infigen Energy does not support new waste coal mine gas projects being included in the RET scheme as these projects are not 'renewable' in any sense, and serve to undermine the legitimacy of the RET scheme.

What would be the costs and benefits of any recommended changes to eligible renewable sources?

Infigen Energy does not support adding any renewable sources or deleting any existing sources (with the exception of new waste coal mine gas projects which are much more appropriately included in a carbon price scheme).

Are the LRET accreditation and registration procedures appropriate and working efficiently?

Infigen Energy considers that the accreditation and registration procedures are working well.

However, we would like to make the following two suggestions with regards to the transparency and ease-of-use of the REC registry.

The LGC and STC market could be improved by:

1. making the Registers (defined in Part 13 of the Renewable Energy Act) more accessible through monthly publication of the public contents of all the Registers in a format suitable for importing to a database. All LGC and STC data that is currently public through web queries could be provided in this more user friendly fashion; each should be no more than 1GB and would therefore be readily downloaded via a broadband connection. The remaining registers would be significantly smaller in size.

2. publishing the invalidation date of invalidated certificates. While this information can be broadly inferred from published data, this simple addition would help market analysts process certificate data more accurately and understand the cycle of how certificates are used.

Currently the REC Registry data is most useful to those parties with the technical resources to write web scripts that query and 'scrape' millions of web pages from the REC Registry. Infigen understands that this process takes several days and is frowned upon by the Clean Energy Regulator (CER), because it is inefficient and resource-intensive for the REC Registry --- adding to its bandwidth costs unnecessarily and risking accessibility to the data by others. The collated data is valuable, and web scraping creates an equity gap between market participants willing to undertake it, and those sensitive to the Clean Energy Regulator's concerns.

If Registry data was collated by the CER and made accessible as suggested, it would open up the information to a broader base of market participants and commentators. Market inefficiencies could be better understood, isolated, discussed and addressed. Today, such discussions are limited to the staff from the Clean Energy Regulator and those parties who are either willing to scrape the REC Registry themselves or purchase the data from others who have already done so.

It is worth noting that some cost reductions are likely to result from supplying collated data in a format suitable for database input by reducing demands on the REC Registry's bandwidth and technical resources.

Small-scale Renewable Energy Scheme

What do you consider to be the costs and benefits of having a separate scheme for small-scale technologies? Should there continue to be a separate scheme for small-scale technologies?

Infigen Energy, and the rest of the renewable energy industry, supported the separation of large and small scale renewable energy schemes. The creation of the separate LRET and SRES schemes has been a very effective change, and will unquestionably improve the efficiency and outcomes of the RET scheme---particularly after the current LGC surplus declines.

The rate of rooftop PV installations can rise and fall dramatically as a result of Federal and/or State Government policy interventions as has been clearly demonstrated in the past. It serves no purpose to have $3000 rooftop PV installations competing with infrastructure investments worth hundreds of millions of dollars. They are clearly two different market segments that should be kept separate. Besides some minimal reduction in administration costs, there are no benefits to combining the schemes. Calls to re-combine the schemes are asking the Government to repeat the same experiment and then expect a different result.

What are the lessons learned from the use of multipliers in the RET? Is there a role for multiplies in the future?

It is important for the integrity and credibility of the RET scheme for the 'currency' of the scheme, LGCs and STCs, to represent actual renewable energy generation. The original principle that one REC was equivalent to one MWh of new renewable energy generation was simple and clear.

The PV multiplier broke this link resulting in the generation of "phantom" Renewable Energy Certificates not linked to any actual electricity generation. Of course, the PV multiplier also resulted in an explosion in the creation of small-scale RECs that still impacts the renewable industry today. In addition, the use of multipliers distorts the REC market causing more expensive generation technologies to be implemented thereby unnecessarily increasing costs to electricity consumers.

For these reasons, Infigen Energy opposes repeating the error of implementing a REC multiplier.

Are the SRES administration arrangements appropriate and working efficiently?

Infigen Energy has one suggestion to improve the current administration arrangements of the SRES.

The Clean Energy Regulator currently operates under a procedure that applications to change one's liability under section 38AF of the *Renewable Energy (Electricity) Act* be restricted to once per year. We understand that this is to avoid the potential for gaming---an unscrupulous liable party could apply in the beginning of a compliance year for a low liability to avoid the requirement to surrender large numbers of STCs quarterly, and then submit another application to increase its liability later in the year reflecting its actual circumstances.

Unfortunately this policy does not consider the case of a liable party with significant operational uncertainty, making an application to reduce its liability by more than 10%, and then at a later stage in the year, encountering changed circumstances that significantly reduces their SRES liability again.

As a hypothetical example:

- a liable party with a historical record justifying a liability of 10,000 STCs in 2012 projects that it will only operate at 80% of its historical load.
- An application is made at the start of the year, which is approved, to change the liability to 8000 STCs.
- Over Q1, 2800 STCs are surrendered by the liable party.
- In March, the liable party is suddenly and permanently required to changes its operations, now consuming at a rate only 20% of its previous year's volume. Because the first quarter was operating at 80% of the previous year's quantity, the total estimated liability for the year changes to 3,500 STCs.
- The Q2 surrender requirement for an 8,000 STC liability is 2,000 STCs, but if this Q2 amount is surrendered then the cumulative quantity surrendered is 4,800 STCs, overshooting the actual 3,500 STC target *for the year* by 1,300 STCs. If the party is further forced to comply with the Q3 surrender requirement for an 8,000 STC liability of 2,000 STCs, then it overshoots its actual requirement by 3,300 STCs.
- Looking forward, the Small-scale Technology Percentage (STP) is estimated to drop from 23.96% in 2012 to 7.94% in 2013, and then to 6.10% in 2014. Assuming these STPs are correct, the liable party will have unnecessarily surrendered 3,300 STCs in 2012, and is likely to only need to surrender about 670 STCs in 2013, and 500 in 2014. In other words, the CER's current one-change-only policy requires the liable party, in this example, to unnecessarily acquit STCs for an additional two years, at least, and likely out to 2016 or later.

The *Renewable Energy (Electricity) Act* and its regulations do not specifically state that a liable party can apply to change its forecast obligations once (or more than once). Infigen recommends that the CER considers a revised stance that permits multiple changes of forecast electricity consumption, made in good faith, for a downwards quantity of more than 10%. A downwards-only policy will discourage gaming behaviours and enable liable parties to make changes under section 38AF that are pragmatic and reflect their specific circumstances.

Diversity of renewable energy access

Should the RET design be changed to promote greater diversity, or do you think that, to the extent that there are barriers to the uptake of other types of renewable energy, these are more cost-effectively addresses through other means? What would be the costs and benefits of driving more diversity through changes to the RET design?

The RET scheme is a market based mechanism that drives investment in the most cost effective renewable technologies and building of the most efficient generation projects, other things being equal. The beneficial result is that the renewable energy generation target is achieved at the lowest cost to electricity consumers.

If the RET scheme is changed to "pick winners" amongst different technologies, no matter which method is utilised (multipliers, banding, caps, etc.), the inevitable result is that the cost to achieve the same renewable energy target will be significantly higher. In addition, the compliance and regulatory costs will also increase---particularly for banding.

The most cost effective means to develop and build emerging renewable energy technologies is to utilise the different programs offered by the Australian Renewable Energy Agency (ARENA) and the CEFC. As one example, the development of hot dry rock geothermal is not being limited by the expected number of LGCs likely to be needed to satisfy the LRET target later this decade. A REC multiplier or a separate band for emerging renewable energy technologies will not accelerate the implementation of a technology that is not technically proven nor its actual costs well documented. Therefore, there will be little benefit trying to "diversify" the RET scheme by trying to pick winners, while there will be significant additional costs to electricity customers.

Assistance for these emerging technologies are much more appropriately provided outside the RET scheme by agencies such as ARENA and the CEFC.

Review frequency

What is the appropriate frequency for reviews of the RET?

As stated before, Infigen Energy is not advocating any changes to the RET legislation including the frequency of reviews. However, in answer to this question, Infigen Energy would suggest that a longer period between LRET reviews would generally be desirable. Every LRET review serves to increase regulatory uncertainty, to some degree, and can cause liable parties to delay offering long term Power Purchase Agreements (PPAs) until after each review is completed. As long as other significant complementary policies, such as a carbon price, are stable and predictable, then an LRET review cycle of three or four years would be more appropriate.

With respect to the next RET review; it is scheduled to begin just after the 'new' Senate is seated after the Federal election next year. Given the current political uncertainty around the Clean Energy Future package of measures, a review of the RET scheme in the 2nd half of 2014 is an appropriate timeframe as the future of the Carbon Price and associated measures should be clearer.

What should future reviews focus on?

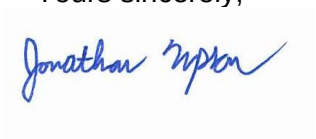
Without advocating any changes to the current RET legislation, Infigen Energy considers that a more focussed and targeted review would be beneficial. The current scope of the RET review is very broad, and it would be more efficient to focus the review on the key features of the LRET scheme---the LRET target, shortfall price and duration of the scheme.

In addition, it would significantly increase investor confidence if such reviews were precluded from consideration of decreasing the LRET target or shortfall penalty price – changes that would reduce renewable energy generation. Such a limitation is not unreasonable as the Act states the CCA's recommendations must align with the objects of the Act including, "to encourage the additional generation of electricity from renewable sources." Recommending a decrease in the LRET target (or the shortfall penalty) would be discouraging additional renewable energy generation, and would therefore contradict the current legislation.

In conclusion, Infigen Energy would respectfully suggest that the Climate Change Authority not recommend any changes to the LRET legislation in the interests of providing the LRET scheme with some much needed stability while also decreasing the perception of regulatory risk for liable parties.

Please contact the undersigned if there are any questions or clarifications needed with regards to this submission.

Yours sincerely,



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