Submission to the Renewable Energy Target Review Expert Panel

Infigen Energy

May 2014

Our generation, your future

The Renewable Energy Target Review Expert Panel
Department of Prime Minister and Cabinet

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Via email to:

Mr Brad Archer
Head of the RET Review Secretariat
Department of the Prime Minster and Cabinet
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Re: Submission in response to the Review of the Renewable Energy Target - Call for Submissions

Infigen Energy appreciates the opportunity to make a submission to the Review of the Renewable Energy Target.

Infigen Energy is Australia's leading specialist renewable energy business. Infigen Energy is the largest owner of wind energy facilities in Australia. As at 31 December 2013 Infigen Energy's investment in its Australian assets had a book value of $1.2 billion including investments of over $30 million in a development pipeline of projects that if developed to meet the LRET would result in over $3 billion of new investment. Infigen Energy owns and operates six major wind farms in Australia with a total installed capacity of 557 MW.

In addition, Infigen Energy owns and operates a $1.7 billion U.S. wind energy business taking its aggregate wind energy interests to 24 wind farms with a total generation capacity of over 1,600 MW.

Infigen Energy has its headquarters in Sydney and is listed on the ASX (IFN). Amongst 20,000 shareholders are several major domestic and international institutional infrastructure investors. However, the majority of our shareowners are ordinary Australian families.

Some questions posed by the Panel are closely related and in providing fulsome answers to each individual question some repetition was necessary. To aid the reader in instances of significant repetition the font colour of the repeated text has been changed to purple in the body of the submission

Executive Summary

Infigen Energy (Infigen) submits that there should be no material change to the parameters of the Large-scale Renewable Energy Target (LRET) scheme. The scheme is making good progress towards the legislated annual target of 41,000 GWh of utility scale renewable energy by 2020. Large scale renewable energy is presently augmenting and will encourage the substitution of "clean" energy for carbon-intensive energy to reduce emissions, as intended. The low marginal cost of renewable energy is reducing wholesale electricity prices to the benefit of consumers.

The uncertainty caused by earlier changes, repeated reviews, and potential further policy variations has brought new commercial development to a standstill, and reduced the value of existing investments made in good faith. Without a coherent energy policy for Australia, including the RET, the industry will rightly cease all investment. Investors require certainty and consistency of future targets to confidently deploy further capital to the sector.

In the event that demand for electricity resumes growth in the near future, it appears likely that wholesale prices will rise materially. New generating plant will be required. But it will likely be impossible to raise commercial finance for new coal-fired generators, given the investment market's realistic stance on their potential exposure to future carbon pricing and/or emissions controls. Gas fired generators now appear uncompetitive (other than as "peakers") due to a move to world market parity pricing of gas in Australia, as well as problematic access to coal seam gas reserves. Renewable generators may well be the only option to meet any demand growth. But if a short term change in policy weakens investment confidence, even this option may not be readily available.

Current and overwhelming global scientific consensus confirms the need for action to reduce carbon emissions as an urgent priority. The LRET scheme provides a certain, verifiable and proven mechanism to contribute to this action, at no cost to the Federal Budget. Few, if any, alternative measures have these attributes. While market mechanisms for carbon reduction may offer theoretical attractions, Infigen submits it would be naive to rely on untested initiatives with no established verification frameworks, unproven technologies, and government funding to achieve unclear long term objectives.

Long standing broad based political support led investors to believe the RET targets were real and gave them confidence to invest in the sector. Commercial operators of renewable energy plant, including Infigen, have made over $18 billion[1] of investments that were predicated, inter alia, on the expected market price of Large-scale Generation Certificates (LGCs) associated with the progressively increasing obligations that had been legislated. In order to achieve profitability over their lifetime and justify the initial investment, these long-life investments typically rely more heavily on expected cash flows from the later years of their planned operation.

It is proper for investors to bear the risk of construction, operation, and overall electricity market demand and pricing forecasts. But it is inappropriate for investors to bear the risk of material adverse change to the legislated targets for the LGCs that are generated. These targets were a central element in the business cases on which the investments were undertaken. The uncertainty caused by policy shifts to date has already resulted in investors increasing their return hurdles for the sector.

If, nonetheless, the Government was to be minded to weaken the RET scheme by altering the target or the time scale adversely, Infigen submits that transitional arrangements to offset the commercial detriment that would arise for existing and committed investments must be put in place ("grandfathering"). These arrangements should replicate the expected trajectory of LGC prices based on the original LRET target. This could be achieved by setting a regulated floor price for LGCs to be paid by the liable parties. In such an event Infigen would welcome an expert independent economic and corporate finance analysis of a suitable "compensating" floor price for this purpose.

Infigen has over 20,000 securityholders of which 99% by number are small retail investors, many of whom have been securityholders since the initial public offering in 2005. Infigen also has many large

[1] *Clean Energy Report 2012*, Clean Energy Council, 2012

global infrastructure investors that have expressed concern to us about the potential sovereign risk aspects of possible regulatory change and have added their support to Infigen's submission. These investors cite their experience of adverse regulatory change in the renewable energy sector in Europe, noting how this has caused much higher return hurdles to be required for all infrastructure investments in those countries.

How has the RET performed against the objectives in the Renewable Energy (Electricity) Act 2000?

Infigen submits that the Renewable Energy Target (RET), including the Large-scale Renewable Energy Target (LRET) is on track to meet the objectives of the Renewable Energy (Electricity) Act 2000 (the Act). These objectives are listed in the Renewable Energy Act legislation:

(a) to encourage the additional generation of electricity from renewable sources; and
(b) to reduce emissions of greenhouse gases in the electricity sector; and
(c) to ensure that renewable energy sources are ecologically sustainable

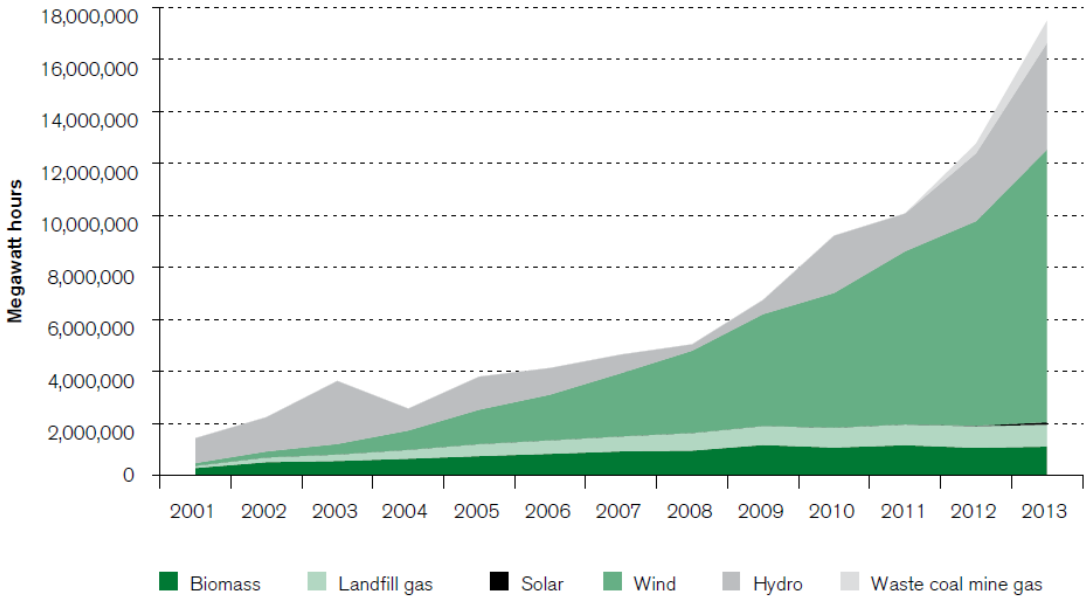
All three are being successfully progressed. Since the introduction of the Act electricity generation from renewable sources, both large-scale and small scale has increased from approximately 15,000 GWh pa[2] to 33,415 GWh pa as at 2013[3]. Modelling by SKM[4] showed that the RET, by itself, was responsible for reducing greenhouse gas emissions from the electricity generation sector by about 20 million tonnes since the scheme's inception in 2001. Specifying that only ecologically sustainable renewable energy sources qualify for the RET scheme continues to ensure the third objective is addressed.

Encourage the additional generation of electricity from renewable sources

Electricity generation from renewable sources, both large-scale and small-scale has increased from approximately 15,000 GWh pa[5] to 33,415 GWh pa as at 2013[6]

The increase in large scale renewable electricity generation, above pre-existing baselines, is shown in the graph below from the Clean Energy Regulator's annual report.[7] Further action is necessary to deliver on the Government's 2020 emission reduction target, and to diversify Australia's electricity generation fuel mix. This will contribute to energy supply security and reduced price volatility.

Graph 2: Supply of large-scale renewable electricity generation, 2001 to 2013



Source: Clean Energy Regulator 2013

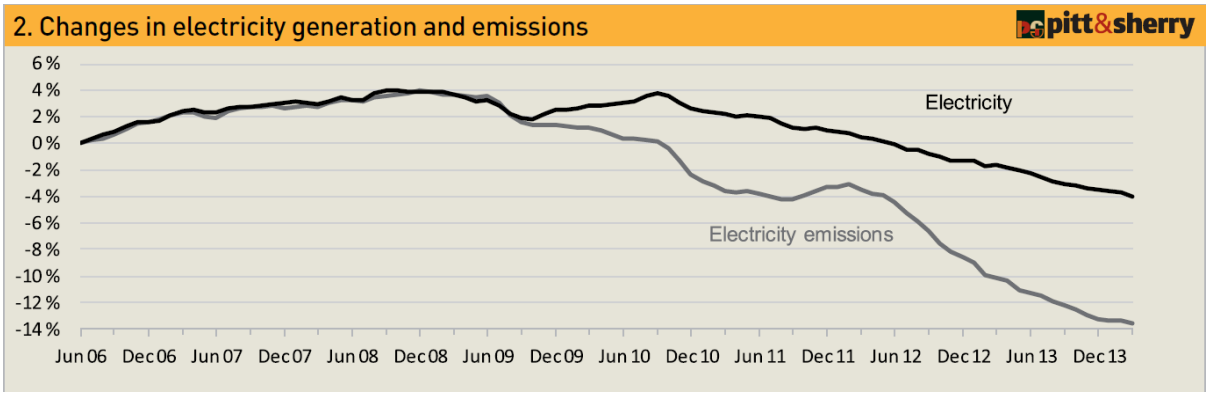
[2] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[3] *The Renewable Energy Target 2013 Administrative Report,* Clean Energy Regulator, April 2014
[4] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[5] Ibid
[6] *The Renewable Energy Target 2013 Administrative Report,* Clean Energy Regulator, April 2014
[7] Ibid

Therefore, it is clear that progress against the first objective of the Act, to encourage additional generation from renewable energy sources, is being made.

Reduce emissions of greenhouse gases in the electricity sector

With regards to the second objective, analysis and modelling by SKM[8] showed that the RET, by itself, was responsible for reducing greenhouse gas emissions from the electricity generation sector by over 20 million tonnes since the scheme's inception in 2001, and at no cost to the Federal Budget.

Analysis by Pitt & Sherry[9] has shown that greenhouse gas emissions from the electricity generation sector have declined more rapidly since the former "plus 2%" RET scheme was expanded in 2009. As the graph below shows, electricity emissions have declined at a greater rate than electricity generation.



While National Electricity Market (NEM) electricity demand has declined by about 8% since its peak in 2008, emissions from the electricity sector have declined by 16% during the same timeframe. The reduction in emissions intensity is also understated to some degree as rooftop PV is 'counted' by the Australian Energy Market Operator (AEMO) as negative demand when it is, in fact, electricity generation from solar energy. While the RET scheme is not entirely responsible for this decline in electricity industry emissions, the increase in hydroelectric, rooftop PV and wind energy generation were responsible for approximately 20 million tonnes of CO2e abatement in this timeframe[10].

The Climate Change Authority reported[11] that Australia's greenhouse gas emissions are expected to rise to 685 Mt CO2e in 2020 if no action[12] is taken. This would be 17% above 2000 levels (585 Mt CO2e) or 129 million tonnes above the '5% below 2000 levels by 2020' target. Without the RET Australia's expected emissions would be 13.2 million tonnes[13] higher in 2020.

Therefore, it is clear that the RET scheme is making progress towards the second legislated objective of reducing emissions in the electricity sector and will continue to play an important role in helping to meet Australia's greenhouse gas reduction targets.

Ensure that renewable energy sources are ecologically sustainable

The third objective is addressed by specifying only ecologically sustainable renewable energy sources as qualifying for the RET scheme. Renewable energy projects developed as a result of the legislation have followed the principles of ecologically sustainable development, and meet, or exceed, the strict government planning conditions applied to project approvals. The proposed reinstatement of native wood waste as a renewable energy source under the RET scheme will require strict administrative and regulatory arrangements to ensure this fuel source is ecologically sustainable.

[8] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[9] *CEDEX carbon emissions index,* Pitt & Sherry, April 2014
[10] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[11] *Targets and Progress Review Final Report,* Climate Change Authority, February 2014
[12] Assumes RET as currently legislated but no carbon price
[13] *RET policy analysis*, ROAM Consulting, April 2014

Are there more efficient and effective approaches to achieving these objectives?

Infigen submits that the current LRET is the most efficient and effective method of achieving the objectives of the Renewable Energy (Electricity) Act 2000. A study by Frontier Economics for the UK Department of Energy & Climate Change (DECC)[14] showed that the cost of wind energy incentives in Australia was the lowest of all 26 countries' schemes evaluated.

The LRET is a market-based, technology-neutral scheme that encourages least-cost renewable generation to be deployed. The relatively long duration of the scheme and its previous bipartisan support has allowed debt and equity providers to deploy competitively priced, long-term capital to support long-life projects. The LRET directly reduces carbon emissions, at no cost to the Federal Budget.

The expanded RET in its current form replaced the state based Victorian RET and the then impending NSW RET and WA RET schemes which were being established at the time. Removing the Federal RET could again prompt the States to develop renewable energy policies (as the ACT is doing now with the ACT Electricity Feed-in (Large-scale Renewable Energy) Act 2011 with outcomes that may not encourage least-cost national outcomes for renewable energy. For example, under the current scheme States such as Tasmania with favourable renewable energy resources can satisfy far more than their proportion of the national LRET targets, thereby lessening the burden on states with poorer renewable energy resources. This feature of the national system reduces the overall cost to the economy.

Importantly:

1. Australia's electricity generation sector accounts for approximately one third[15] of Australia's annual carbon emissions and is the largest source of emissions
2. Reducing emissions in the electricity sector is required over the medium to long term to meet Australia's international commitments.
3. Renewables will be more cost effective than gas fired generation at reducing carbon emissions in the electricity generation sector, but renewables still need the LRET to compete with old fully depreciated coal-fired generators.
4. Except for the RET, there is no scheme or proposed mechanism that will deliver material reductions in carbon emissions in Australia's electricity generation sector.

Internationally alternative schemes that promote renewable electricity generation and/or reduce greenhouse gas emissions from the electricity sector include.

- Carbon pricing/emission trading schemes;
- Feed-in tariffs ;
- Tax credits (such as wind farm production tax credits, and accelerated depreciation benefits in the USA);
- Baseline and credit / reverse auction mechanisms (such as Direct Action in Australia); and
- Renewable energy obligation schemes (such as the RET scheme in Australia, the Renewable Portfolio Standard (RPS) schemes operating in the majority of States in the USA, and the ROC scheme operating in the UK).

Carbon pricing/emission trading schemes

A carbon price or emission trading scheme functions by increasing the wholesale price of electricity sourced from generation that emits carbon dioxide. This is in contrast to the LRET scheme that allows the low marginal cost renewable generators to depress the wholesale electricity price.

[14] *International support for onshore wind,* Frontier Economics (UK), June 2013
[15] 176.6 Mt CO2e of 538.4 Mt CO2e for the year ended 31 December 2013. National Greenhouse Gas Inventory, 'unadjusted' emissions by sector (Excluding emissions from Land Use, Land Use Change and Forestry)

Australia's current fixed carbon price is well below the price required (~$40-50/tonne[16]) to change the electricity generation technology mix significantly. Without a higher and more stable carbon price any such scheme is unlikely alone to result in a material increase in renewable energy generation or a material reduction in carbon emissions.

Feed-in Tariffs

Renewable energy feed-in tariffs (FiTs) provide a guaranteed price for electricity generated from renewable sources sufficient to deliver a target return to the capital providers. These schemes have been implemented in a number of countries including Spain, Germany and France.

FiT schemes can result in tariffs being set higher than necessary to bring new renewable energy plant into the market, particularly as the cost of renewable energy technologies like solar PV and onshore wind energy have declined. The German electricity market is currently encountering difficulties with its FiT scheme. The effect has been made worse by Germany's higher unit cost of renewables due to its relatively poor renewable resources. While some commentators like to use Germany as an example of the potential negative unintended consequences of a strong renewables policy, it is inappropriate to compare Germany to Australia as differences between the countries' legislated schemes and their solar[17] and wind[18] resources make such comparisons invalid.

Tax Credits

Tax credits for renewable energy facilities provide a financial benefit to companies and/or individuals investing in renewable energy plants. Rather than increasing electricity bills, tax credits reduce tax revenue. Tax credits have been effective in meeting both of the RET scheme's first two objectives, particularly in the USA. Tax credits, driven by a fixed formula, can provide a larger tax rebate than necessary for more cost effective projects, and will not minimise the cost of the scheme. In addition, tax credits are only effective for companies generating taxable profits. This became an issue for some US projects during the GFC.

Baseline and credit / reverse auction mechanism (e.g. Direct Action)

While Direct Action's Emission Reduction Fund (ERF) may prove effective at reducing greenhouse emissions across the broader economy, the plan, as currently described, is not expected to significantly reduce greenhouse gas emissions in the electricity sector. The proposed 5-year terms for the measures to be promoted under this policy would not, of course, provide sufficient duration of investment certainty to permit the commercial development of long-life infrastructure. The resultant measures would thus be expected to be operational changes rather than being investment-led. It is unlikely that these measures will affect emissions from electricity generation materially.

Renewable Energy Obligation Schemes

There are a number of schemes that require specified levels of renewable energy generation to be deployed in a jurisdiction. The State Renewable Portfolio Standards in the USA, UK Renewable Obligation Certificate scheme, and Australia's RET scheme are three examples. Australia's LRET scheme is a competitive, market-based and technology-neutral mechanism that builds the most efficient and cost effective technologies and projects, at no cost to the Federal Budget. Currently, wind energy is generally the most cost effective technology, and so the LRET is currently enabling more wind farms than any other renewable technology. Solar PV technology is becoming increasingly cost-effective and can be expected to make some contribution to meeting the LRET targets in the latter years of the scheme.

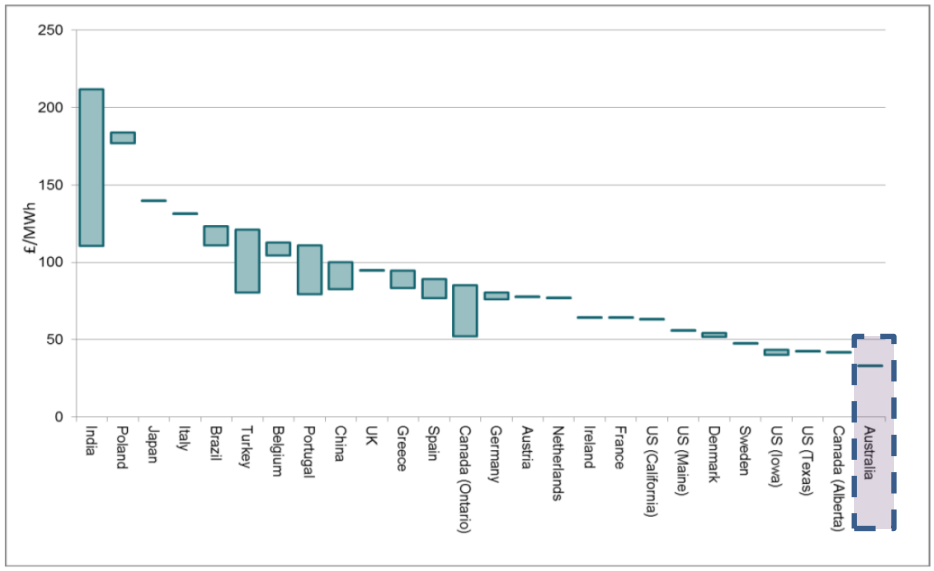
[16] Assumes existing coal fired generation competes with CCGT with gas prices of $8-10/GJ, Heat rate of 7.5 GJ/MWh and CCGT carbon intensity of 0.38t/MWh

[17] Estimated average solar PV capacity factor in Australia is 21% (Australian Energy Technology Assessment 2012) compared to Germany 9.5% (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit – Zeitreihen zur Entwicklung der erneuerbaren Energien in Deutschland 2013)

[18] Estimated average wind capacity factor in Australia is 38% (Australian Energy Technology Assessment 2012) compared to Germany 17.6% (Erneuerbare Energien in Zahlen - Nationale und internationale Entwicklung 2013)

A study by Frontier Economics for the UK Department of Energy & Climate Change (DECC)[19] showed that the cost of wind energy incentives in Australia was the lowest of all countries evaluated, as shown in the following chart.

Figure 12. Range of absolute support levels for large-scale wind for new plant in 2011 (£/MWh, PPP exchange rates, 2011 prices)



Source: International support for onshore wind, Frontier Economics (UK), June 2013; PPP = Purchasing Power Parity

Current and overwhelming global scientific consensus confirms that the need for action to reduce carbon emissions remains a global priority. The LRET Scheme provides a certain, verifiable and proven mechanism to contribute to this action, at no cost to the Federal Budget. Few, if any, alternative measures have these attributes. While market mechanisms for carbon reduction may offer theoretical attractions, Infigen submits it would be naive to rely on untested initiatives with no established verification frameworks, unproven technologies, and government funding to achieve unclear long term objectives.

[20] 176.6 Mt CO2e of 538.4 Mt CO2e for the year ended 31 December 2013. National Greenhouse Gas Inventory, 'unadjusted' emissions by sector (Excluding emissions from Land Use, Land Use Change and Forestry)

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?

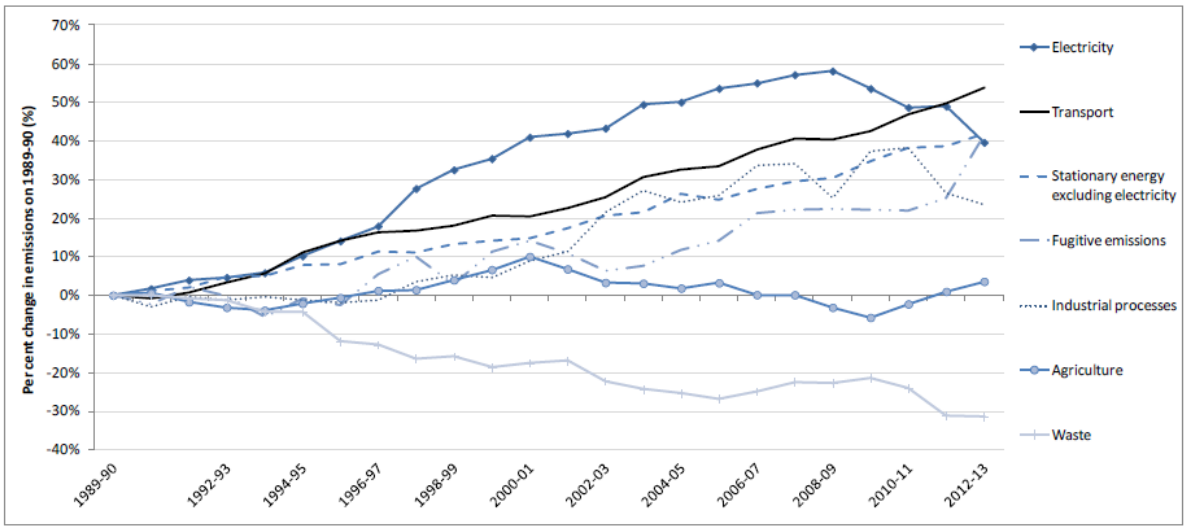
Infigen submits that reduced growth in electricity demand and revised Government greenhouse gas policies do not change the appropriateness of the Act's objectives. There is scientific consensus beyond reasonable doubt that reducing greenhouse gas emissions remains a necessary global objective – indeed one with increasing urgency and importance. Australia should commit itself to playing its part, notwithstanding its low share of global emissions. This is for reasons of international citizenship and reputation, sustaining international influence on a wider front, and also having regard to Australia's very high per capita emissions intensity.

Since electricity generation still represents one third[20] of Australia's emissions, and because zero-emission technologies are well placed to substitute for emitting technologies in this sector, measures remain necessary to ensure the sector demonstrates emissions reductions.

Without a coherent energy policy for Australia, including the RET, the industry will rightly cease all investment. Investors require certainty and consistency of future targets to confidently deploy futher capital to the sector.

While there is reduced growth in electricity demand, thus reducing the scope for net *additional* generation sources, as possibly envisaged during formulation of the Act, the aging of heritage fossil fuel generators and the need for prudent retirement and replacement still afford opportunities for this sector to contribute to the national reduction task. Slow progress in achieving reductions in sectors other than waste (which only accounts for 2.2% of total emissions) as illustrated in the graph below increases the rationale for the electricity generating sector to carry a reasonable share of the load.

Percentage change in emissions by sector since 1990, Australia, 1989-90 to 2012-13



Source: Department of the Environment.

Source: Quarterly Update of Australia's National Greenhouse Gas Inventory: December 2013

Alignment with the Government's policies for reducing carbon emissions

Infigen notes that, in addition to its pre-election expressions of continued support for the established LRET scheme and its targets that come at no cost to the Federal Budget, the Government proposes a Budget-funded "Direct Action" plan to achieve additional emissions reductions. The proposed 5-year terms for the measures to be promoted under this policy would not, of course, provide sufficient duration of investment certainty to permit the commercial development of long-life infrastructure. The

[20] 176.6 Mt CO2e of 538.4 Mt CO2e for the year ended 31 December 2013. National Greenhouse Gas Inventory, 'unadjusted' emissions by sector (Excluding emissions from Land Use, Land Use Change and Forestry)

resultant measures would thus be expected to be operational changes rather than being investment-led. It is unlikely that these measures will affect emissions from electricity generation materially.

Reduced electricity demand growth means that renewable energy will likely satisfy all new demand. This is consistent with any objective to cap emissions from existing sources through baselines, while further reducing emissions through the Emissions Reduction Fund.

How has the RET influenced the development of the renewable energy industry?

Infigen submits that the RET has been essential to the development of the utility-scale renewable energy industry.

The allocation of RECs (later STCs) to distributed electricity facilities diverted demand for RECs/LGCs produced by utility scale plant. This diversion undermined the expected economics of those investments made before that allocation. It did, however, stimulate the small scale, "roof top solar" industry by providing economies of scale and accelerating industry expertise.

The LRET mechanism has been the fundamental driver of growth in the renewable energy industry over the past thirteen years. The May 2014 CEDEX (carbon emissions index) report[21] showed that the penetration of wind energy in the National Electricity Market (NEM) has reached 4.6 per cent.

While the Act has driven additional utility scale and small scale renewable generation it has also provided an incentive to many businesses to invest and develop new technologies. Australia's geothermal sector (Panax Geothermal, Geodynamics, Petratherm, Green Rock Energy, and Pacific Hydro) has been able to raise private funding to advance deep and shallow geothermal exploration and develop pilot generation plant. Investment in new technologies such as Origin Energy's solar SLIVER technology was committed with the goal of making it commercially viable with the assistance of the RET incentive. Australia has an abundance of renewable energy resources including solar, wind, geothermal, and waves. While wind and solar have initially been the more successful technologies, the investment in and advancement of other renewable energy technologies would likely have been much slower without the incentive provided by the RET.

By accelerating the development of the renewable energy industry, the RET has also been mitigating substantial 'externalities' caused by the electricity generation sector. We understand that the rationale of the Act was in past driven by recognition that no cost is levied on these externalities currently.

Externalities resulting from the burning of coal to generate electricity include particulate pollution which causes serious respiratory, cardiac and other illnesses.[22] The Australian Academy of Technological Sciences and Engineering (ATSE)[23] quantified these externalities in 2009. It concluded:

> *"emissions from the combustion of fossil fuels, notably particulates or fine particles (PM10),sulphur dioxide (SO2) and nitrogen oxides (NOX), can affect the local incidence of respiratory and cardiovascular disease… the total health damage cost of these three coal-fired power station emissions is about $13/MWh, equivalent to an aggregated national health burden of around $A2.6 billion per annum."*

The ATSE study classified carbon dioxide emissions as an externality resulting from coal fired electricity generation that, in the absence of a price on carbon, will not be charged to fossil fuel-fired generators.

[21] *CEDEX Electricity Update,* Pitt & Sherry, May 2014
[22] NSW Environmental Protection Agency page on coal mining and air quality http://www.epa.nsw.gov.au/air/coalminingnsw.htm
[23] *The Hidden Costs of Electricity Generation: Externalities of Power Generation in Australia,* Australian Academy of Technological Sciences and Engineering, 2009

Should the LRET be abolished, reduced or increased? If retained, what level should it be? What would the impact of such changes be?

Infigen submits that the current LRET trajectory leading to 41 TWh pa of renewable energy in 2020 should be maintained. In doing so, a potential sovereign risk event will be mitigated, the electricity generation sector will be able deliver carbon emissions reductions needed to meet government commitments, and wholesale and retail electricity prices will be lower than they would otherwise be if the targets were lowered.

Over $18 billion[24] investment has already been made based on the expected long term LGC prices that would be required to meet the 41,000 GWh target. Since 2010 LGC market prices have been below what is necessary for those investments to make a commercial return. This is largely due to regulatory uncertainty about possible changes to the scheme. As a consequence the bundled wholesale electricity and LGC price is currently ~$20/MWh below that required and expected by renewable generators that were constructed in response to the legislated targets. The regulatory uncertainty contrasts with the intention of the legislation. In the second reading speech when the scheme was being expanded Minister Greg Combet stated "*To provide renewable energy investors with even greater legislative certainty, the 45,000 gigawatt hour target will be maintained until 2030*."[25]

Rationale for retaining the LRET at its current level

No case for an increased LRET

While supporting maintenance of the existing RET, Infigen also sees little case for an increase in the target or an earlier effective date. This is because the investment needed for a further increase could be unduly difficult to source efficiently, and the downward economic pressure on heritage generators could be too rapid without substantially increased demand that seems unlikely. However, because the investment horizons for new generators are at least 20 years, Infigen submits that maintenance of the present target should also include extension of the requirement to meet the target until at least 2040.

A change would necessitate action to mitigate of sovereign risk for renewable energy investments

Long standing broad based political support led investors to believe the RET targets were real and gave them confidence to invest in the sector. Commercial operators of renewable energy plant, including Infigen have made over $18 billion26 of investments that were predicated, inter alia, on the expected market price of Large-scale Generation Certificates (LGCs) associated with the progressively increasing obligations that had been legislated under the LRET scheme. These long-life investments typically rely, for their lifetime profitability, on expected cash flows from the later years of their planned operation.

It is proper for investors to bear the risk of construction, operation, and overall electricity market demand and pricing forecasts. But it is inappropriate for them to bear the risk of material adverse change to the legislated targets for the LGCs that are generated. These targets were a central element in the business cases on which the investments were undertaken. The uncertainty caused by policy shifts to date has already resulted in investors increasing their return hurdles for the sector.

On 6 September 2013 G20 leaders endorsed new G20/OECD principles on long term investment financing. This followed an OECD-launched initiative to encourage the flow of institutional investment towards longer-term assets, such as infrastructure and renewable energy projects, in order to strengthen the global economy[27].

Six major Canadian pension plans with over $700 billion in assets - Canada Pension Plan Investment Board, Ontario Teachers' Pension Plan Board, Ontario Municipal Employees' Retirement System, Caisse de dépôt et placement du Québec, British Columbia Investment Management Corporation,

[24] *Annual Report 2013*, Clean Energy Council, 2014
[25] RENEWABLE ENERGY (ELECTRICITY) AMENDMENT BILL 2009, Second Reading, 17 June 2009 [Greg Combet]
[26] *Clean Energy Report 2012*, Clean Energy Council, 2012
[27] OECD 2014 viewed 16 May 2014 at http://www.oecd.org/newsroom/leaders-endorse-new-g20oecd-principles-on-long-term-investment-financing.htm

and Alberta Investment Management Corporation submitted collective comments on the topic[28]. All of the signatories to the comments have long term liabilities and extensive experience financing long term investments.

On the subject of investment related concern to promote and facilitate a favourable environment for long-term investing these six institutions noted:

"Policy and regulation should be stable and consistent across jurisdictions as this allows investors to confidently make long-term investment decisions. Policy frameworks that promote on-going consistency in the application of rules that exist at the time of the investment decision provide more certainty in the ultimate after-tax real cash flows, thereby reducing the return required by institutional investors. For example, changes in taxation rates and/or administrative practice and regulatory policies (e.g. utility and renewable regulation) add risk and uncertainty to investments. Investors also need to be able to rely on the rule of law in particular in terms of international investments. Many infrastructure investments are essentially long-term contracts; the potential for governments to change the economics of established contracts will require higher returns."

On 23 January 2014 the Prime Minister delivered an important address to the World Economic Forum in Davos, Switzerland, titled ***This year's G20: Getting the fundamentals right***[29]. In the address the Prime Minister stated clearly "*What investors really need is greater confidence that governments won't change the rules after the investment has been made*"

Infigen has made $1.4 billion of investments in utility-scale renewable energy assets in regional Australia over the past ten years. These investments were made in good faith, and as a direct and intended consequence of legislation which has enjoyed the previous bipartisan support since inception in its original form in 2000.

Investors in Infigen securities have also made their investments in the belief that longstanding legislation designed to facilitate investments in renewable energy should be reliable – i.e. that the rules won't change after the investment has been made.

Infigen has over 20,000 shareholders with around one third by value of holdings comprising Australian retail investors and two thirds by value comprising institutional investors based in Australia, the UK, Asia, and elsewhere. Our shareholders have become increasingly frustrated with the lack of regulatory stability for renewable energy investment in Australia. A few samples of the expressed views of our institutional investors follow:

"*The heavy discount of the (Infigen) share price has been aggravated most recently by the Australian Government's change of stance against the renewable energy industry. A change which flies in the face of the attitude being currently displayed by other major economies, in particular the USA and China, with the latter being one of Australia's major trading partners. By having this review the government has already established serious sovereign risk for international investors such as ourselves. In light of the serious sovereign risk threatening the company's business and operations in Australia today we would urge (Infigen) to explore all opportunity to build upon operations and business developments outside Australia, and to focus on the US*."

Jeremy Higgs, Environmental Services Asia Limited, Hong Kong

"*In Spain this led to the worst case scenario of large retroactive cuts for renewables. From personal experience we can promise you that our, as well as our colleagues, rates of return hurdle for investments in this country have increased dramatically as a result and as such made new investments in renewables and other infrastructure investments much more expensive for Spain. If Australia was to take similar action our return hurdles for future Australian renewable investments and other Australian infrastructure investments would also increase greatly*."

Christian Rom, DNB Asset Management, Norway

[28] OECD Principles of Long-Term Investment Financing by Institutional Investors Comments from Canadian Pension Plans, OMERS 2014, viewed 16 May 2014 at http://www.omers.com/pdf/OECD_Long-Term_Investment_Financing_Principles.pdf

[29] Abbott, T 2014 "This year's G20: Getting the fundamentals right", Address to the World Economic Forum, Davos, Switzerland, 23 January

"The uncertainty surrounding this review has already had a significant negative impact on the market value of every business in the sector, and in turn a negative impact on the retirement savings of the thousands of Australian investors who invest in this country on the basis that they can rely on legislation. We invest globally and are accustomed to sovereign risk in emerging markets and demand commensurately higher returns. It is not something we should have to compensate for in Australia."

Steve Johnson, Intelligent Investor Funds Management, Sydney

"Our long term investments, as referred above, have been made in good faith under the assumption that the objectives of a scheme that we understand to have had longstanding broad based political support, would be met. It is, therefore, concerning to us as investors that these schemes are being reviewed and some of the targets can undergo a considerable downward revision. We truly believe that such changes, if finally adopted, will have a significant negative effect on investor sentiment regarding the renewable sector specifically and in maintaining Australia as a favoured destination of investment."

Federico Ghella, Leo Fund, London

Sovereign risk for fossil fuel generators

A few fossil fuel generators have argued that continuation of the RET as currently legislated represents sovereign risk for their investments in fossil fuel generation.

Australia's mandatory renewable energy target was first proposed by the Howard government in 1997 and passed into legislation in 2000. Much of Australia's fossil fuel-fired electricity generation fleet has changed hands since that time, particularly more recently. In that period initiatives to privatise electricity generation and distribution in Victoria and South Australia were followed by remarketing of many of those assets, including for example the Playford and Northern coal-fired power stations in South Australia acquired via TPG's acquisition of Alinta Energy in 2012, and China Light & Power's acquisition of Energy Australia's business in coal and gas-fired electricity generation in 2013.

More recently privatisations of electricity generation assets in NSW have added to the substantially changed ownership structure of Australian fossil fuel fired electricity generation plant in recent years. Complaints about sovereign risk from recent acquirers of fossil fuel generation assets must be viewed with scepticism given that they invested with full knowledge of the existence and implications of the RET for the future supply of renewable energy. These owners of fossil fuel generation assets should not be compensated for any fully informed investment decisions they may have made in anticipation of post-acquisition weakening of the RET.

The objectives of the Act remain relevant, with the targets and emissions reductions achievable

The objectives of the RET legislation remain relevant, and the LRET is one of the most efficient and cost effective schemes in the world in achieving these objectives[30]. The rate of build of new renewable energy plant is keeping pace with the current target trajectory to date, and there is currently 15,799 MW of proposed wind generation and 639 MW of proposed solar generation projects[31], of which ~6,000 MW[32] have already received development approval. Therefore there is a sufficiently advanced project development pipeline to meet the current LRET scheme, which would require 6,000 – 8,000 MW of new capacity between now and 2020, subject to the restoration of regulatory certainty.

Analysis and modelling by SKM[33] showed that the RET, by itself, was responsible for reducing greenhouse gas emissions from the electricity generation sector by over 20 million tonnes since the scheme's inception in 2001. Further, any reduction in the LRET target would effectively shut out further investment in renewable generation. This would cap the potential emissions reduction at the

[30] *International support for onshore wind,* Frontier Economics (UK), June 2013
[31] Australian Energy Market Operator, February 2014
[32] *Renewable Energy Project Tracker*, Gilbert and Tobin, May 2014
[33] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012

capacity of the current fleet, hindering the achievement of emissions reduction targets above this level.

While Infigen Energy considers that the current LRET target can be achieved, this would require this RET Review to be the last statutory review until 2020. If there continue to be reviews every two years, or the Government indicates that further reviews are possible at any time, then the current LRET target is unlikely to be achieved because the uncertainty would preclude rational commercial investment.

The LRET will continue to improve economic activity in regional areas

Significant additional economic activity has occurred as a direct result of the LRET at Australian manufacturers such as Keppel Prince (turbine towers), Nexans Olex (cables) and Wilson Transformers. In addition, many new construction and operation jobs have been created in regional areas where such jobs are especially needed. A study by SKM[34] for the CEC estimated that a 50MW wind farm would provide a gross value added of $50 million to a State, and contribute between 0.012% and 0.21% to gross state product (GSP) depending on the size of the state economy.

The LRET will lower electricity prices for consumers

As documented in electricity price determinations by State regulators, such as the Queensland Competition Authority[35], the current *prima facie* annual contribution of the LRET scheme to retail electricity prices is about $28/household and represents about 1.4% of a typical residential electricity bill. This contribution is offset by the scheme's effect in reducing wholesale electricity prices. Renewable energy generators typically underbid thermal generators in the National Electricity Market (NEM) due to their lower marginal cost of generation.

Three expert energy market consulting firms (SKM[36], Schneider Electric[37] and ROAM Consulting[38]) have undertaken modelling of the future cost of the LRET scheme. Each has forecast that the LRET scheme as it currently exists will result in lower average wholesale and retail electricity prices compared to a scenario where the LRET target was reduced to a 'real 20%'.

In all cases there was a small reduction in retail energy prices of between 0.5% and 1.5% for the first few years followed by a larger increase in retail electricity prices of 2.5% – 6% in the latter half of the decade and beyond, despite using somewhat different inputs and assumptions.

The net impact on retail prices of the current LRET scheme (41 TWh in 2020) was compared to a 'real 20%' target (27 TWh in 2020) using the model outputs.

Under the current LRET all incumbent generators must forego some revenue in order for consumers to pay lower prices than in the lower LRET scenario. This is a normal occurrence in a competitive market. The following extract from Macquarie Generation's submission to the RET Review in 2012 on the lower forecast wholesale prices under the current 41TWh LRET target compared to the 'real 20%' target of 26TWh support this explanation.

"The difference is that existing generators (mostly thermal but also hydro) bear almost the entire burden of the increase via lower wholesale prices in the modelling 'the merit order effect' – some $6 billion in total.

As a result existing generators bear 98% of the burden of the additional $6 billion cost of building the additional 15 TWh and consumers bear just 2%."

These generators are bidding fully depreciated generation plant into the market with electricity price rises further improving their excess returns. If the RET is reduced this $6 billion burden will be passed onto consumers.

[34] *Wind farm investment, employment and carbon abatement*, Clean Energy Council, June 2012
[35] *Final Determination Regulated Retail Electricity Prices 2013- 14*, Queensland Competition Authority, May 2013
[36] *Modelling the Renewable Energy Target report for the Climate Change Authority*, SKM, December 2012
[37] *Australia's Large-scale Renewable Energy Target: Three Benefits for Consumers*; Schneider Electric, April 2014
[38] *RET policy analysis*, ROAM Consulting, April 2014

Impacts of retaining the LRET at its current level

Renewables market share in 2020

The RET legislation provides for 41 TWh of electricity to come from large-scale renewable sources in 2020.
Suggestions that the level of 20% was ever a policy limit are, at best, revisionist. They are not, of themselves, any reason to reduce the target.

Furthermore the task of forecasting 2020 electricity demand today is no easier than it was when the legislation was enacted and is likely to be equally biased by recent past experience, potentially leading to an underestimation of demand. There has been consistent consensus amongst renewable energy generators and parties obligated under the legislation since 2000 that a fixed GWh pa target is far preferable to one that is percentage based. This approach provides some of the certainty and predictability needed to underpin investment and planning.

If the panel considers there is some relevance to the percentage outcome of renewable energy in 2020 it is important to establish accurate estimates for the numerator and denominator. Infigen submits that the numerator should be calculated using the fixed LRET target, a forecast of generation from the SRES and pre-1997 baseline renewable generation. The denominator should represent Australia's total electricity production and should include:

- electricity production in the NEM (scheduled, semi-scheduled and non-scheduled)
- electricity production in Western Australia's electricity network (i.e. the SWIS) and in the Northern Territory
- off-grid electricity production (a rising source of electricity generation due to increased mining activity)
- electricity production from rooftop solar PV 'added back' to demand; and
- other 'behind the meter' distributed electricity production

Green Energy Markets analysis[39] forecast renewable energy market share to be 22.5% in 2020.

ROAM Consulting analysis[40] forecast renewable energy's market share to be 22.6% in 2020.

An Australian Government report[41] by the Bureau of Resources and Energy Economics forecast renewable energy's market share to be 22% in 2020.

Of course, these estimates could fall materially if the further uptake of rooftop solar were to plateau and/or electricity demand were to respond to improving economic conditions and resume growth.

Action required if the RET is weakened

If, nonetheless, the Government was to be minded to weaken the RET scheme by altering the target or the time scale adversely, Infigen submits that transitional arrangements to offset the commercial detriment that would arise for existing and committed investments must be put in place ("grandfathering"). These arrangements should replicate the expected trajectory of LGC prices based on the original LRET target. This could be achieved by setting a regulated floor price for LGCs to be paid by the liable parties. In such an event Infigen would welcome an expert independent economic and corporate finance analysis of a suitable "compensating" floor price for this purpose.

[39] *Renewable Energy Target:The Numbers Explained Research Note 2-2013*, Green Energy Markets, May 2013
[40] *RET policy analysis,* ROAM Consulting, April 2014
[41] *Australian Energy Projections,* Bureau of Resources and Energy Economics, December 2012

Should the LRET and SRES schemes be recombined?

Infigen submits that the two schemes should not be combined because small and large scale technologies have unique characteristics that require different support mechanisms.

- The LRET addresses utility scale projects with generation capacities of tens of millions of watts of electrical capacity whilst SRES focuses on household systems comprising a few thousand watts.
- The SRES scheme is for 'behind the meter' installations competing directly with delivered retail electricity whilst the LRET generates electricity 'in front of the meter' for sale into the wholesale electricity market. These two market segments have completely different characteristics.
- LRET projects earn LGCs only as electricity is generated whilst SRES assets (primarily domestic rooftop PV systems) earn many years' worth of STCs upon installation through the 'deeming' provisions.

The primary similarity between the SRES and LRET market segments is that they both incentivise the generation of electricity from renewable sources. (However technologies such as solar hot water and 'heat pumps' that displace demand are also included in the SRES and so earn STCs, but they do not contribute to the supply of renewable electricity.)

Prior to 2011 there was a combined scheme. The rationale for separating them was that there were unintended consequences from additional incentives such as the solar bonus and unduly high feed in tariffs provided to the small scale technologies that artificially created and accelerated an oversupply of certificates in the market. This greatly stifled investment in new large scale renewable generation.

A recombination of the schemes would impose new risk on existing and proposed large-scale projects. Capital providers may well demand compensation for this additional risk in the form of higher costs for their capital. This would ultimately result in higher costs to consumers.

An argument for recombining the two schemes might be that the SRES is 'uncapped' in any given year and throughout the duration of the RET and consequently its costs are uncapped. However, the reductions in the solar bonus multiplier and feed-in tariffs have resulted in SRES costs reducing. Furthermore, as the market becomes saturated there will be further reductions in the costs associated with the scheme.

Infigen submits that if it is deemed necessary to make changes to incentives to either small or large scale technologies, it would be less complicated to do so with separately focused schemes while also avoiding potential unintended consequences.

For the above reasons, Infigen submits that the SRES and LRET should remain separate schemes.

What impact is the RET having on electricity markets and energy markets more broadly? How might this change over time?

Infigen submits that the RET scheme is reducing wholesale electricity prices materially; is adding less than 1.5% to retail electricity bills; is requiring no additional grid or distribution network investment; is curbing the scope for fully depreciated fossil fuel generators to maximise revenue; and that these positive effects are expected to persist through the retention of the present scheme and targets.

The RET scheme is having a number of impacts on the electricity market including changes in the generation mix, greenhouse gas (and other) emissions, and electricity prices. Changes in the generation mix and greenhouse emissions have been covered elsewhere in this submission, so this section will focus on the impact on electricity prices.

The impact on generation supply

The rate of build of new renewable energy plant is keeping pace with the current target trajectory to date, and there is currently 15,799 MW of proposed wind generation and 639 MW of proposed solar generation projects[42], of which ~6,000 MW[43] have already received development approval. Meeting the current LRET scheme would require 6,000 – 8,000 MW of new capacity between now and 2020.

ROAM Consulting[44] modelled the effect of the RET on existing generation but did not forecast any closures as a result of the RET. The following extract is included with the modelling results.

"ROAM undertakes economic analysis of all plant to determine whether it would be economically rational to retire or mothball (temporarily retire) existing units. In addition to saving annual fixed costs (e.g., maintenance) this decision can also be driven by portfolio effects (where withdrawal of capacity increases profits for other units in the portfolio sufficient to cover that unit's lost revenue; this also provides a windfall to other market generators).

ROAM's analysis suggests that relatively little plant will choose to retire in the absence of a carbon price, even under the BAU and Extended RET scenarios. Currently mothballed plant was returned to service on announced schedules."

The impact on greenhouse gas emissions

Analysis and modelling by SKM[45] showed that the RET, by itself, was responsible for reducing greenhouse gas emissions from the electricity generation sector by over 20 million tonnes since the scheme's inception in 2001. ROAM Consulting[46] forecast the RET will reduce electricity sector greenhouse gas emissions by a cumulative 34.7 million tonnes between 2014 and 2020 and 160.3 million tonnes between 2021 and 2030.

[42] Australian Energy Market Operator, February 2014
[43] *Renewable Energy Project Tracker*, Gilbert and Tobin, May 2014
[44] *RET policy analysis*, ROAM Consulting, April 2014
[45] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[46] *RET policy analysis*, ROAM Consulting, April 2014

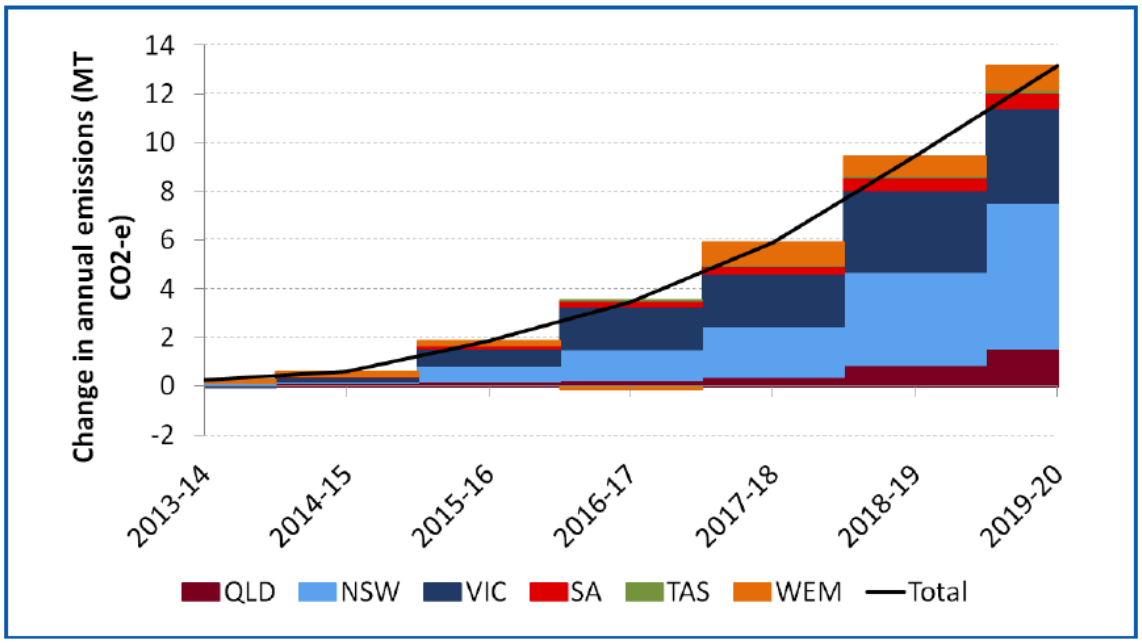


Figure 6.4 – Electricity sector emissions in No RET scenario relative to BAU (NEM and WEM)

Source: ROAM Consulting: RET policy analysis April 2014

The impact on electricity prices

The National Electricity Market (NEM) is like no other market in Australia.

- the NEM is the only market on the east coast where one can purchase large quantities of electricity;
- it is a commodity market. Electricity is a stream of electrons and no company has 'better' electrons than another[47] ;
- it is a market where the product cannot currently be cost effectively stored, so the demand and supply of electricity must be continuously matched every second of every day or the network will become unstable; and
- the price for this commodity changes every five minutes of every day and can rise from a typical price of $40-50/MWh to the price cap of $13,250/MWh (a 250X price rise) or fall to the price floor of minus $1000/MWh in a matter of minutes.

Understanding how various factors impact on the wholesale electricity market are important in understanding how these factors in turn influence the retail price of electricity.

The current *prima facie* contribution of the LRET to retail electricity prices is on average 1.5%

State Electricity regulators, such as the Queensland Competition Authority (QCA), the NSW Independent Pricing and Regulatory Tribunal (IPART), and the Essential Services Commission of South Australia (ESCoSA) have determined the allowable pass through costs of the LRET to residential electricity customers on regulated electricity tariffs. Costs should be uniform across the country as the RET is Commonwealth legislation. The results of the most recent determinations are as follows:

[47] Of course, the environmental, and other, effects of electricity generation technologies are significantly different even if their electrons are not.

Regulatory Determinations of LRET Costs				
	ESCoSA (SA)	IPART (NSW)	QCA (QLD)	QCA (QLD)
Regulatory Period	CY11 - FY14	FY14	FY14	FY15
'Typical' Annual Household Electricity Usage (kWh)	5,000	6,500	6,133	6,133
Annual LRET Cost ($/household)	$20.31	$40.00	$28.00	$26.65
LRET Costs as a % of a Residential Electricity Bill	1.41%	1.99%	1.40%	1.30%

Notes:

- All prices are GST inclusive. IPART % based on a typical Energy Australia electricity bill of $2,012
- Cost are higher in NSW because IPART allows retailers to charge consumers LGC prices well above market prices

With the exception of IPART which currently allows retailers to pass through an LGC price of over $51/MWh (when the current market price is less than $30/MWh), the regulators agree that the current contribution of the LRET to retail electricity prices is only about 1.4% of a typical residential electricity bill. According to the most recent regulatory determination, undertaken by the QCA, the typical annual *prima facie* cost of the LRET per household is about $28 (or $2.30/month). Infigen submits that about $28 per annum does not represent a substantial impost on residential electricity bills.

The LRET is lowering wholesale electricity prices

Renewable energy generation has the effect of lowering wholesale electricity prices by offering electricity to the market at a lower price than fossil fuel generation because it has no fuel cost.

As increasing amounts of low marginal cost generation enter the electricity market there is a corresponding increase in the amount of downward pressure on wholesale electricity prices. The fact that wind energy underbids coal and gas fired generators today is recognised by AEMO, who operates the NEM. In a report released in 2013[48] it states,

> *"Wind generation capacity is normally offered for dispatch at very low … prices, and is typically the lowest-priced source of supply available."*

The merit order effect can be clearly observed in South Australia as shown in the table below published by AEMO.

[48] *Integrating Renewable Energy – Wind Integration Studies Report,* Australian Energy Market Operator, September 2013

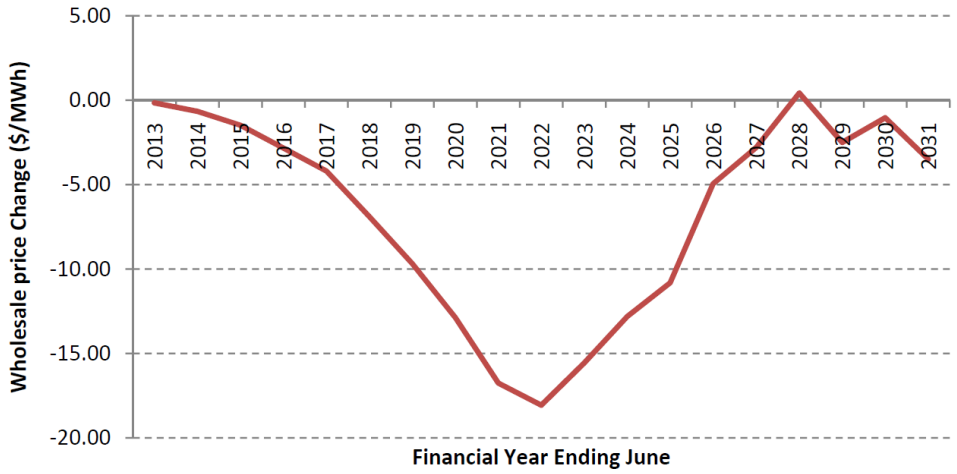
Table 1 — Wholesale market prices for South Australia (average)

Financial year	SA renewable generation		SA fossil-fuelled generation		Total SA market generation		SA regional reference price
	Financial year	Summer[a]	Financial year	Summer[a]	Financial year	Summer[a]	Financial year
	Volume-weighted average	Volume-weighted average	Volume-weighted average	Volume-weighted average	Volume-weighted average	Volume-weighted average	Time-weighted average
	($/MWh)	($/MWh)	($/MWh)	($/MWh)	($/MWh)	($/MWh)	($/MWh)
2005–06	42.61	45.67	55.72	72.58	55.35	71.57	45.71
2006–07	58.89	55.80	71.27	72.34	70.45	71.19	60.88
2007–08	72.95	104.02	108.88	176.61	105.53	170.04	83.94
2008–09	51.33	73.80	75.65	124.19	72.19	116.71	56.44
2009–10	50.80	88.37	89.03	160.30	82.35	148.74	59.92
2010–11	25.25	26.64	44.58	63.48	40.35	55.37	34.20
2011–12	27.14	24.83	32.80	28.93	31.24	27.79	30.96
2012–13	57.70	53.76	76.65	66.88	71.36	63.61	69.92

a. Summer is defined as November to March inclusive, within the Australian mainland.

Source: Australian Energy Market Operator

The left hand box shows the volume weighted average prices paid to wind farms in South Australia for the last four financial years while the right hand box shows the volume weighted average prices paid to all generators (i.e. the average wholesale prices for the four financial years). For example, in FY13, the average wholesale price of electricity when wind farms were generating electricity was $57.70 compared to the average wholesale price for the year of $71.36. While it is difficult to precisely quantify the amount of wholesale price reduction attributed to wind farms in SA, there is a clear correlation between lower prices and wind generation. Electricity market modelling can estimate this differential. SKM[49] for example, modelled the wholesale price reduction in the NEM due to the RET to be in excess of $15/MWh in 2020 as illustrated in the following graph.



Source: SKM 2012

SKM[50] also modelled renewable energy's effect on wholesale prices during the heatwave in SA and Victoria during January 2014. Its analysis showed that the average volume-weighted wholesale electricity prices would have been over $300/MWh higher in SA and/or Victoria for three out of the four days of the heatwave. On 17 January 2014 this had the effect of lowering the wholesale cost of electricity in those States by over $90 million on that day alone – for 3.16 million households in SA and Victoria this represents over $35 per household.

[49] *Modelling the Renewable Energy Target,* SKM, December 2012
[50] *Impact of Wind Generation on Prices*, SKM, February 2014

Future electricity price impact of the LRET scheme

If the LRET is lowered consumers will pay more for their electricity.

Three expert energy market consulting firms (SKM[51], Schneider Electric[52] and ROAM Consulting[53]) have undertaken modelling of the future cost of the LRET scheme. Each forecast that the LRET scheme as it currently exists will result in lower average wholesale and retail electricity prices compared to a scenario where the LRET target was reduced to a 'real 20%'.

In all cases there was a small reduction in retail energy prices of between 0.5% and 1.5% for the first few years followed by a larger increase in retail electricity prices of 2.5% – 6% in the latter half of the decade and beyond, despite using somewhat different inputs and assumptions.

The net impact on retail prices of the current LRET scheme (41 TWh in 2020) were compared to a 'real 20%' target (27 TWh in 2020) using the model outputs.

SKM

SKM[54] electricity market modelling commissioned for the 2012 RET Review determined that retail electricity prices would be higher if the LRET target was reduced.

The following graph from SKM's report shows the wholesale price of electricity (green line) is always higher in the updated 20% (or 'real' 20%) case. This is due to less low marginal cost renewable generation being built due to the reduced LRET target. The forecast retail price (blue line) that includes the *prima facie* contribution of the LRET scheme to electricity prices starts out slightly lower, but rises to result in higher retail electricity prices in 2017 to 2025 driven by an increase in wholesale electricity prices.

The modelling shows no net benefit to consumers by reducing the LRET scheme.

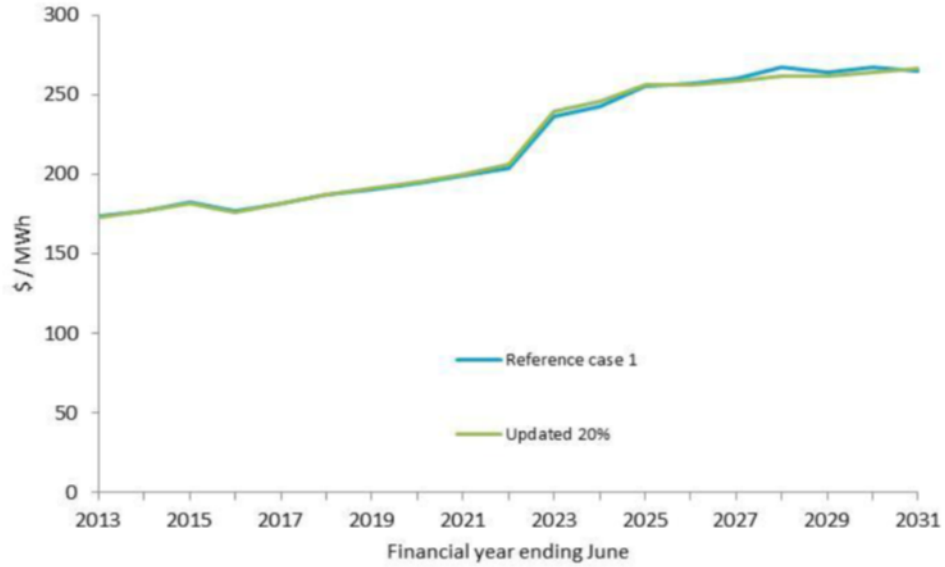
Figure 41 Change in wholesale and change in retail prices – *updated 20% target* compared with *reference case 1*

[51] *Modelling the Renewable Energy Target*, SKM, December 2012
[52] *Australia's Large-scale Renewable Energy Target: Three Benefits for Consumers*; Schneider Electric, April 2014
[53] *RET policy analysis*, ROAM Consulting, April 2014
[54] *Modelling the Renewable Energy Target*, SKM, December 2012

Source: SKM 2012

SKM also undertook specific modelling of the impact of a reduced LRET on retail electricity prices for small to medium enterprises (SMEs). The results are summarised in the graph below that shows the net change to retail electricity prices for SMEs is negligible.

Figure 44 Small-to-medium average retail electricity prices under *reference case 1* and *updated 20% target* scenarios



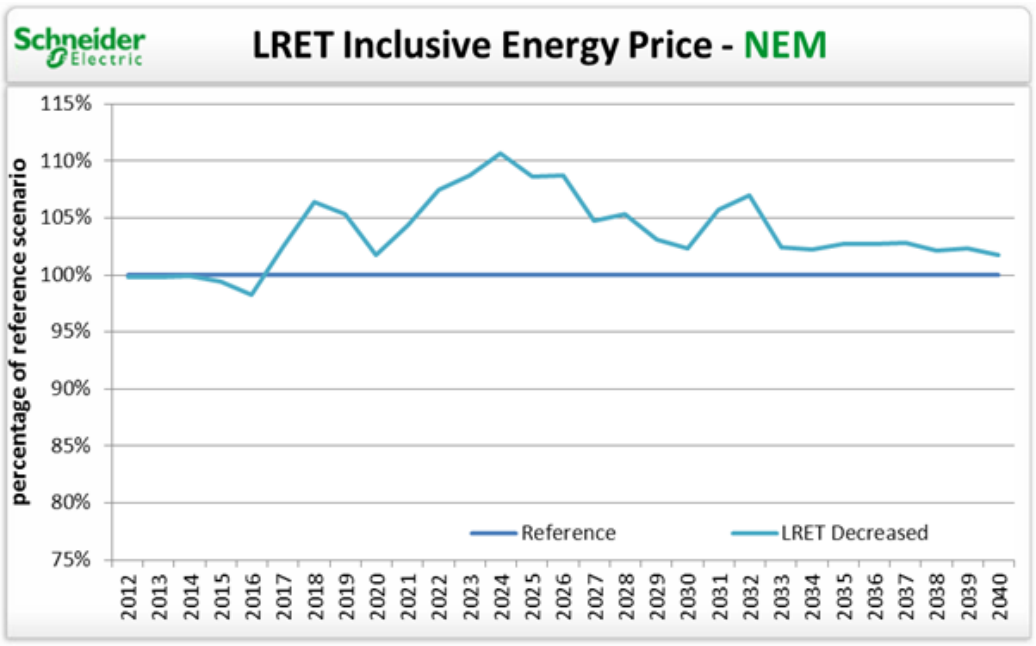
Source: SKM 2012

Schneider Electric

Schneider Electric[55] was commissioned by a number of large electricity consumers to undertake electricity market modelling on the effect of LRET. It also determined that retail electricity prices would be higher if the LRET target was reduced. The study identified and quantified the effect of electricity demand, gas prices, the RET and carbon pricing on electricity prices.

The following graph from Schneider's study shows that electricity prices are forecast to be around 5% higher (bundled wholesale electricity and LRET price) if the current 41TWh LRET target (reference) is reduced to a 27 TWh target (LRET Decreased). The 100% line is the current 41TWh target.

[55] *Australia's Large-scale Renewable Energy Target: Three Benefits for Consumers,* Schneider Electric, April 2014



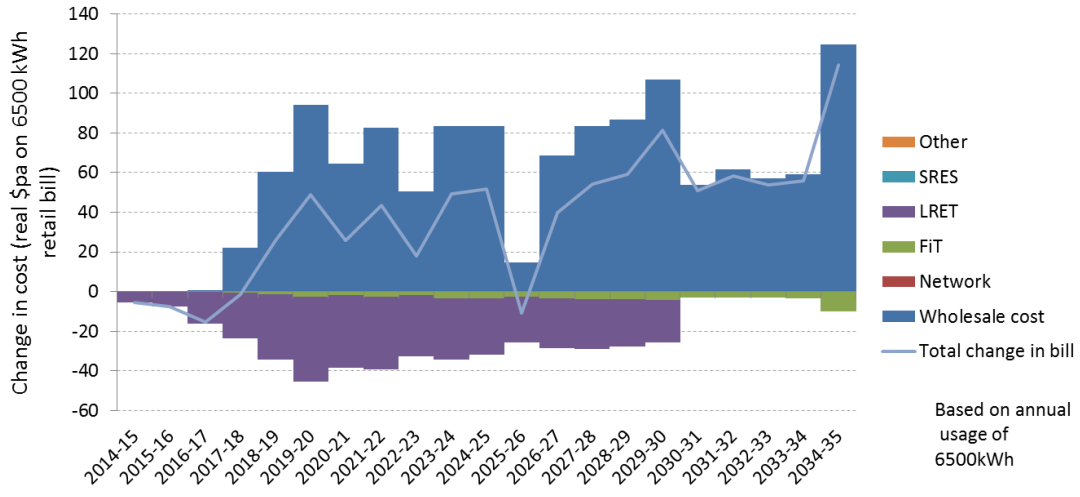
Source: Schneider Electric 2014

ROAM Consulting

ROAM Consulting[56] modelling also determined that retail electricity prices would be higher if the LRET target was reduced. The following graph shows the forecast higher retail electricity prices as a result of reducing the LRET to 27 TWh in 2020 (light blue line).

The graph also details the forecast changes to various components of the retail price. The elements on the negative side of the x axis represent the savings from reducing the LRET from 41 to 27 TWh while the elements on the positive side of the x axis represent the costs associated with the change.

The wholesale electricity price increases (blue columns) exceed the *prima facie* LRET decrease (purple columns). The net impact of reducing the LRET is shown by the light blue line which shows a small saving (less than $20/household) for the first few years followed by 7 years of higher retail prices of between $20 and $40 per household per annum.



Source: ROAM Consulting 2014

Under the current LRET all incumbent generators must forego some revenue in order for consumers to pay lower prices than in the lower LRET scenario. This is a normal occurrence in a competitive

[56] *RET policy analysis*, ROAM Consulting, April 2014

market. The following extract from Macquarie Generation's submission to the RET Review in 2012 on the lower forecast wholesale prices under the current 41TWh LRET target compared to the 'real 20%' target of 26TWh support this explanation.

"The difference is that existing generators (mostly thermal but also hydro) bear almost the entire burden of the increase via lower wholesale prices in the modelling 'the merit order effect' – some $6 billion in total.

As a result existing generators bear 98% of the burden of the additional $6 billion cost of building the additional 15 TWh and consumers bear just 2%."

These generators are bidding fully depreciated generation plant into the market with electricity price rises further improving their excess returns. If the RET is reduced this $6 billion burden will be passed onto consumers.

Summary of modelling analysis

While each of the three electricity market modelling firms (SKM, Schneider and ROAM) utilised different electricity market models and incorporated somewhat different inputs and assumptions, all three models produced the same essential results which can be summarised as follows:

Reducing the LRET from the current 41 TWh target to about 27 TWh in 2020 results in:

- A slight reduction in retail prices for the first few years of between 0.5% and 1.5%, followed by
- An increase in electricity prices in the latter part of this decade of between 2.5% and 6.0% for a significantly longer period of time

Network costs

The LRET has not, and is not expected to result in any increased network costs to consumers.

It has been speculated by some commentators that the current LRET scheme will result in higher network charges being added to consumer electricity bills as a result of new network infrastructure being required to connect new renewable generation. Infigen submits that there is no evidence to support this speculation.

Every new electricity generation plant, whether it is a coal, gas, wind, or solar generator pays for its own grid connection costs as specified in the National Electricity Rules. Since the inception of the RET scheme, not one additional power line required for a large-scale renewable energy generator has been added to a network's regulated asset base. Therefore, electricity consumers have not been subject to any additional network charges because of the LRET scheme.

The Australian Energy Market Commission looked at this issue in a report examining the impacts of the expanded RET scheme[57]. With respect to the change in required network infrastructure, the report makes the following two statements,

" *A break down of investment trends by year over the period modelled…reveals a somewhat unexpected result. Transmission investment costs are generally forecast to be somewhat greater under the counterfactual scenario relative to the enforced LRET and carbon scenarios. That is, transmission requirements are less with the LRET in place."*

"Under the enhanced RET transmission costs are forecast to be lower compared to if the enhanced RET was not in place as renewable generation is modelled to locate close to the existing transmission network."

[57] *Impact of the enhanced Renewable Energy Target on energy markets – Interim Report,* Australian Energy Market Commission, November 2011

Therefore, the LRET has not, and is not expected to result in any increased network costs to consumers.

Back up generation

The LRET has not, and is not expected to result in any new back up generation.

AEMO's Australian Wind Energy Forecasting System currently forecasts wind generation in the NEM one hour ahead of time with 97- 98% accuracy[58]. Whilst wind energy generation is variable, it is able to be forecast very accurately in the timeframes that matter for electricity market operations. Forecasting wind energy is much more accurate than forecasting electricity demand, or forecasting the failure of ageing coal fired electricity generators that malfunction or trip off-line.

Back-up generation and systems to maintain electricity supply during unexpected changes in generation already exist to back-up outages of the largest coal fired power stations in each State. The NEM is designed to maintain electricity supply even when the largest generator (or transmission line) in a region fails unexpectedly. The challenge to AEMO of balancing the system when a 500MW coal-fired generator unexpectedly and instantaneously drops off line is far greater than managing a forecast slow decrease in generation from wind farms as wind conditions change – even once the full LRET target is met.

A recent study by Windlab Systems[59] confirms these points by studying AEMO data from South Australia where wind currently supplies about 28% of electricity demand. The study states that

> *"The proportion of scheduled peaking generating capacity compared to peak demand stayed virtually unchanged at just over 25% as wind generation increased 350% over the past 8 years."*

Back-up and peaking generation is typically supplied by Open Cycle Gas Turbines (OCGT). The Windlab Systems study documents that, far from increasing the need for back-up generation, OCGT generation in South Australia has declined from 501 GWh in FY06 to 321 GWh in FY13. It is very unlikely that any other State in Australia will approach such a high market share for wind energy by 2020 under the current LRET target. Therefore, there is no reason to expect any new 'back-up' generation to be built in NEM as a result of the LRET.

[58] *100% Renewables Study – Draft Modelling Outcomes*, Australian Energy Market Operator, April 2013
[59] *Peaking Capacity, CO2-e Emissions and Pricing in the South Australian Electricity Grid with High Wind Penetration 2005-2013*, Windlab Systems, May 2014

How should reforms to the RET be implemented? What transitional issues could arise and how might they be addressed?

Infigen submits that only two reforms to the RET are required: to abandon future statutory RET reviews, and to extend the scheme to 2040. These measures would require no transitional arrangements.

One of the most important reforms of the RET is to reduce regulatory risk by eliminating legislated reviews of the RET scheme.

All investors and stakeholders in the electricity industry, including the renewable energy sector, understand the importance of legislation and regulatory frameworks for their businesses. Equally, all understand that Parliament has the ability to amend laws at any time. The statutory reviews were included in the legislation to encourage regular reconsideration of increasingly ambitious targets. Contrary to those intentions, the statutory reviews have only served to increase uncertainty for all stakeholders and inaction from liable parties. The statutory reviews are not serving the objectives of the RET legislation and should be removed.

Infigen also submits that maintenance of the present target should also include extension of the requirement to meet the target until at least 2040 because the investment horizons for new generators are at least 20 years.

There are no proposed reforms to comment on and Infigen does not believe that any reforms to the central features of the LRET are required. It is therefore not possible to make specific submissions regarding implementation of reforms. To avoid unnecessary unintended damage to the industry and the economy, Infigen would encourage the Government to outline any proposed reforms and consult extensively with the industry prior to legislation of any proposed changes.

If the Government was to be minded to weaken the RET scheme by altering the target or the time scale adversely, Infigen submits that transitional arrangements to offset the commercial detriment that would arise for existing and committed investments must be put in place ("grandfathering"). These arrangements should replicate the expected trajectory of LGC prices based on the original LRET target. This could be achieved by setting a regulated floor price for LGCs to be paid by the liable parties. In such an event Infigen would welcome an expert independent economic and corporate finance analysis of a suitable "compensating" floor price for this purpose.

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?

The RET directly interacts with the Government policies in relation to Australia's greenhouse gas emission reduction target and lowering electricity prices. The RET reduces greenhouse gas emissions in the electricity generation sector and lowers wholesale and retail electricity prices.

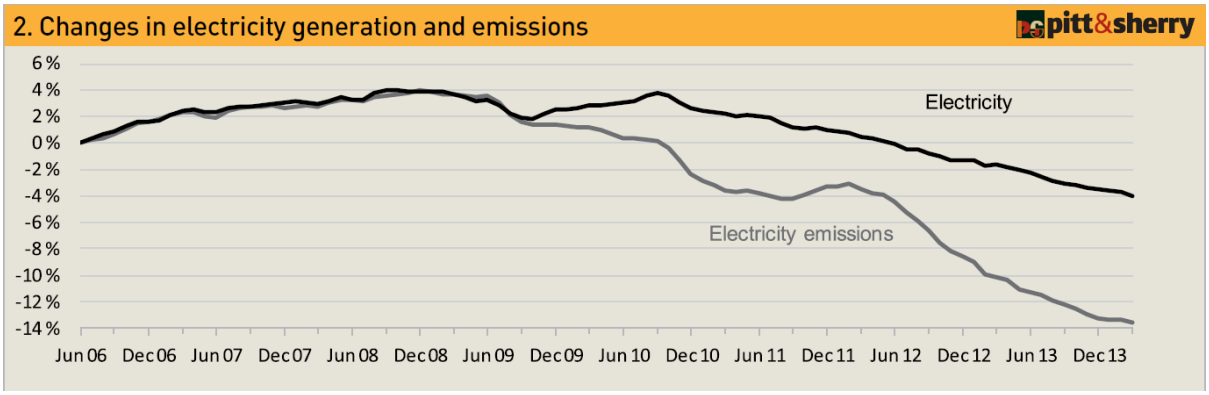
In relation to greenhouse gas emissions the Government has outlined the following goal.

Australia will unconditionally reduce its emissions by 5 per cent compared with 2000 levels by 2020.[60]

Reducing greenhouse gas emissions in the electricity generation sector

Analysis and modelling by SKM[61] showed that the RET, by itself, was responsible for reducing greenhouse gas emissions from the electricity generation sector by over 20 million tonnes since the scheme's inception in 2001.

Analysis by Pitt & Sherry[62] has shown that greenhouse gas emissions from the electricity generation sector have declined more rapidly since the former "plus 2%" RET scheme was expanded in 2009. As the graph below shows, electricity emissions have declined at a greater rate than electricity generation.



Source: Pitt & Sherry 2014

While National Electricity Market (NEM) electricity demand has declined about 8% since its peak in 2008, emissions from the electricity sector have declined by 16% during the same timeframe. The reduction in emissions intensity is also understated to some degree as rooftop PV is 'counted' by AEMO as negative demand when it is, in fact, electricity generation from solar energy. While the RET scheme is not entirely responsible for this decline in electricity industry emissions, the increases in hydroelectric, rooftop PV and wind energy generation were responsible for approximately 20 million tonnes of CO2e abatement in this timeframe[63].

Emissions in the electricity sector are, however, now expected to rise again. ACIL Allen's modelling, in a presentation to the EUAA[64], forecast an increase in coal fired generation and carbon emissions primarily due to sharply rising gas prices forcing gas fired generators out of the market. This increase in emissions is forecast to occur even with the current LRET. ACIL's modelling forecasts that black and brown coal fired generation are set to rise 17% and 5%, respectively by 2020 (compared to 2013), resulting in carbon emissions from the electricity generation sector rising 6% or 32 million tonnes above current levels by 2020.[65]

[60] http://www.climatechange.gov.au/climate-change/greenhouse-gas-measurement-and-reporting/australias-emissions-projections/australias
[61] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[62] *CEDEX carbon emissions index,* Pitt & Sherry, April 2014
[63] *The Benefits of the Renewable Energy Target to Australia's Energy Market and Economy,* SKM, August 2012
[64] *NEM Outlook and Emerging Trends - Presentation to the EUAA Annual Conference,* ACIL Allen October, 17 2013
[65] ACIL Allen, Personal communication

In order for Australia to meet its greenhouse gas reduction targets, this increase in emissions would need to be offset in some other sector. If the LRET (or SRES) was reduced, then the burden on the Direct Action Emissions Reduction Fund, and thereby the Budget, would be even greater as more coal fired generation would be needed to make up for the lower contribution of zero emission renewable generation to meet electricity demand. If the generators were required to purchase carbon credits to meet their increased emissions, this cost would likely be recovered by the generator increasing the price at which it offers electricity resulting in higher prices for consumers. SKM[66] modelled that the RET would result in 217 million tonnes of greenhouse gas abatement through to 2030 compared to no RET.

More broadly, the Climate Change Authority reported[67] that Australia's greenhouse gas emissions are expected to rise to 685 Mt CO2e in 2020 if no action[68] is taken. This would be 17% above 2000 levels (585 Mt CO2e) or 129 million tonnes above the '5% below 2000 levels by 2020' target. Without the RET Australia's expected emissions would be 13.2 million tonnes[69] higher in 2020.

A greater emissions reduction challenge if the target is weakened

Electricity market modelling by SKM[70] has shown that a 'real 20%' (LRET = 26.4TWh in 2020) would increase greenhouse emissions from the electricity sector by 47 million tonnes between 2013 and 2020[71]. If the marginal cost of abatement was $15/tonne, the additional cost to the Budget would be over $700 million.

The RET scheme functions in a similar way to the proposed Direct Action mechanism. Obligated parties informally, or formally through a tender process, conduct reverse auctions seeking the lowest price offers of electricity and LGCs to be supplied by new renewable energy generators. Typically, the obligated party chooses to offer a Power Purchase Agreement to the project with the lowest offer. The winners of these competitive auctions will be the most cost effective and efficient renewable generation projects.

Natural gas is no longer a cost-effective transition fuel

In Australia in the early to mid-2000s gas was widely considered a transition fuel to lower the emissions of the nation's electricity generation fleet at least cost. It was envisioned that less carbon-intensive combined-cycle gas turbine generation (~0.4t CO2-e/MWh) would replace coal-fired generation (~1t CO2-e/MWh) and hence reduce the annual emissions of the electricity generation sector. It did not mean that gas would be simply added to the existing fleet and that coal fired generators would operate as normal – this would still lead to a net increase in emissions, albeit at a slower rate. Gas use as a "transition fuel" was argued (particularly by gas producers) to be a bridge between highly carbon intensive coal-fired generation and renewable generation (or fossil-fuelled generation with carbon capture and storage technology). Even back then however a price on carbon of ~$20/tonne and rising was required for this transition to take place.

By 2012 Australia had a fixed price on carbon in excess of $20/tonne. However this did not incentivise this gas transition because the price of gas on Australia's east cost was set to treble from its historical average of ~$3/GJ due to the development of the Liquefied Natural Gas (LNG) export market. The following extract from a Jacobs SKM[72] report illustrates this dramatic projected price increase.

[66] *Modelling the Renewable Energy Target report for the Climate Change Authority*, SKM, December 2012
[67] *Targets and Progress Review Final Report,* Climate Change Authority, February 2014
[68] Assumes RET as currently legislated but no carbon price
[69] *RET policy analysis*, ROAM Consulting, April 2014
[70] *Modelling the Renewable Energy Target report for the Climate Change Authority*, SKM, December 2012
[71] *Renewable Energy Target Review Final Report,* Climate Change Authority, December 2012
[72] *New contract gas price projections*, Jacobs SKM, April 2014

Seller	Seller Business Type	Buyer	Buyer Business Type	Source	Destination	Date Announced	Start Date	End Date	Term (Years)	Annual Volume (PJ)	Term Average Price ($/GJ)
AGL	Trader	Xstrata	End User	Surat CSG	Mt Isa	6/10/2011	1/05/2013	30/10/2023	10.5	13.1	$6.00
Origin	Producer/ Trader	MMG	End User	OE Portfolio	Mt Isa	20/12/2012	1/01/2013	31/12/2019	7	3.0	$8.29
Santos	Producer	Unknown	Unknown	STO Portfolio	Unknown	23/02/2013	Unknown	Unknown	Short	Low	$8.00
Beach Petroleum	Producer	Origin	Producer/ Trader	Cooper	OE Portfolio	10/04/2013	1/01/2015	31/12/2022	8	17.0	$8.50
BHPB-Esso	Producer	Lumo	Trader	Gippsland JV	Victoria & NSW	1/05/2013	1/01/2016	30/12/2018	3	7.0	$7.29
BHPB-Esso	Producer	Origin	Producer/ Trader	Gippsland JV	Victoria & NSW	19/09/2013	1/01/2014	31/12/2022	9	48.0	$6.76
BHPB-Esso	Producer	Orica	End User	Gippsland JV	NSW	1/11/2013	1/01/2017	31/12/2019	3	14.0	$5.86
Nexus	Producer	Santos	Producer	Gippsland Longtom	Victoria & NSW	31/10/2013	1/07/2013	29/12/2018	5.5	15.1	$5.95
AGL?	Trader	Incitec Pivot	End User	Surat CSG?	Mt Isa	18/12/2013	1/02/2015	31/12/2016	1.9	8.5	$10.02

Source: Jacobs SKM 2014

In order for gas to replace coal in electricity generation a carbon price of ~$50/tonne[73] would now be required. This carbon price would make coal-fired generation uncompetitive (thereby possibly precipitating closure of these plants but for the high costs of decommissioning) and ensuring gas proponents were paid a price for their gas that made them indifferent as to whether it was burned for domestic electricity here or exported as LNG.

If the Government succeeds in repealing the carbon price mechanism, the renewable energy target will be the only policy that is driving material emissions reductions in the electricity generation sector. At present the sector is highly carbon intensive, very exposed to commodity price risk and has little diversity of fuel supply and technology. Gas is now too expensive to burn for electricity generation even if there wasn't a Renewable Energy Target lowering wholesale electricity prices. As a result the diversity of fuel and technology supply is lessened with the challenge compounded by lower than expected grid electricity (energy) demand growth, partly due to a greater penetration of distributed generation (residential and commercial solar PV). The RET aids fuel and technology diversity as lower short run marginal cost renewables displace coal fired generation – the same coal-fired generation that was intended to be displaced by gas when it was "widely considered to be the transition fuel".

So while the cost of gas, expected demand growth and the expected carbon price have changed, the need to transition from highly carbon intensive to lower carbon intensive electricity generation has not. The value transfer from coal fired generators to gas fired generators that would have occurred under the vision in the early to mid-2000s was never contentious. This is because the companies that owned the coal fired generators planned to develop the replacement gas fired generators and expected the taxpayer to compensate them for the closure of their coal fired generators. These companies have now abandoned their gas fired generation ambitions and their coal-fired plants are being transitioned out of the market by renewable generation at no cost to the taxpayer or the consumer.

This is vitally important when the proper policy consideration is the electricity consumer's perspective. Electricity market modelling consistently shows that consumers will be better off under the current RET than they would be under a lower target or no RET.

The value transfer that occurs from fossil fuel generator to renewable generator is no more or less "fair" than the uncontentious value transfer that was previously anticipated to occur when gas was considered a prospective 'transition fuel'.

[73] http://www.theaustralian.com.au/national-affairs/policy/direct-action-will-deliver-says-origin-energy-chief-grant-king/story-e6frg6xf-1226778307079#

What can be done to improve the efficiency and effectiveness of these interactions in delivering intended policy objectives?

It is difficult to improve the efficiency and effectiveness of these interactions because the current outline of the Emissions Reduction Fund, particularly the short contract duration and uncertainty about how emitters will be levied for emissions beyond their baselines, does not provide the necessary predictability required to make necessarily long term investment decisions.

It is therefore important to provide stability to the RET that complements the objectives of other policies that are evolving.

Reducing the LRET (and/or SRES) will have a direct and undesirable interaction with the Government's Direct Action policy in terms of increasing the emission reductions (and related costs) that Direct Action would be required to deliver.

With regard to improving the effectiveness and efficiency of the LRET scheme, one of the most important steps the Government should take is to reduce regulatory risk by eliminating legislated reviews of the RET scheme.

All investors and stakeholders in the electricity industry, including the renewable energy sector, understand the importance of legislation and regulatory frameworks for their businesses. Equally, all understand that Parliament has the ability to amend laws at any time. The existing statutory biennial reviews were included in the legislation to encourage regular reconsideration of expected increasingly ambitious targets. Contrary to those intentions, the statutory reviews have only served to increase uncertainty for all stakeholders and facilitated inaction from liable parties. The statutory reviews are not serving the objectives of the RET legislation and should be removed.

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?

Infigen submits that three changes to administrative arrangements should be considered by the RET Review Panel.

Infigen submits that LGCs should be surrendered quarterly, rather than annually at present, to increase market liquidity and reduce price volatility. We believe generators and liable entitles would benefit from the more orderly markets that would result from this change. This proposed change would also align the compliance calendars of the large and small scale schemes.

Infigen also submits that LGC registration be required to occur within 12 months of the month that the renewable generation occurred. Currently LGCs must be registered by December 31st of the year following the year that the generation occurs. This extended registration period (up to 23 months) has the potential to distort the market view of supply and demand, which can result in less efficient investment decisions.

Finally, Infigen submits that large electricity users should be given the ability to opt-in to the RET framework and become voluntary buyers of renewable energy and the associated LGCs. This would advance the policy and legislative objectives of the RET by increasing the number of potential buyers of LGCs. Increasing the number and range of LGC buyers would stimulate LGC sellers to provide innovative and customised solutions for these new buyers. In addition to supporting the policy objective of the RET legislation, this would encourage greater market efficiency for participants in the market mechanisms that support the RET legislation.

Should any other energy sources be included in the LRET? Should any non-renewable (but low emissions) energy sources be included?

Infigen submits that it is not aware of any other renewable energy sources that merit inclusion in the LRET scheme. The current list of technologies is comprehensive and includes all renewable and sustainable electricity generation technologies that are likely to generate utility scale electricity in the foreseeable future.

Infigen submits that the LRET and SRES are effective because they are focused and simple in scope. Strategies to encourage other abatement-related investments such as low-emissions generation technologies, energy displacement, or energy efficiency, are better served using "white certificate" schemes similar to those being successfully implemented in NSW and Victoria.

The Renewable Energy Target scheme was first proposed by the Howard Government to grow a new sustainable industry, which would also reduce greenhouse gas emissions. The Renewable Energy Target scheme remains very popular with the great majority of Australians supporting the current target, or a higher target[74].

Changing the scheme to include 'low emission' sources would be contrary to the objectives of the scheme and would have a number of undesirable consequences. Given the uncertainty around how above-baseline carbon emissions will be treated under the Government's Direct Action policy, the inclusion of carbon emitting sources (no matter how low) would render the scheme dysfunctional as project proponents would not have the necessary certainty to make investment decisions.

Furthermore, a change of this nature would significantly add to the scheme's complexity and would raise some very serious and challenging transition issues, not least of which would be defining what a certificate created under the scheme represented. In order to adjust for different carbon intensities, the certificates would become a de-facto carbon price. Administrating compliance of such a scheme would be complex and expensive.

In answering this question Infigen has made some assumptions about the problem the Panel seeks to solve by posing this question. It may be a belief that there are other sources of generation that can lower the emissions of the electricity generation sector at a lower cost. Before an export market for natural gas on the east coast of Australia emerged, combined cycle gas turbines may have been capable of delivering lower cost carbon abatement using a simplistic tonnes CO_2/LRMC approach. Gas proponents now freely acknowledge that a carbon price of ~$50/tonne[75] is required for gas to displace coal as a generation fuel. Infigen is not aware of any other low emission technologies that are sufficiently developed that could credibly be included in the scheme.

Therefore, Infigen submits that no change to energy sources qualifying for the LRET scheme is desirable, or required.

[74] http://essentialvision.com.au/renewable-energy-target-2
[75] http://www.theaustralian.com.au/national-affairs/policy/direct-action-will-deliver-says-origin-energy-chief-grant-king/story-e6frg6xf-1226778307079#

What should be the frequency of statutory reviews of the RET?

Infigen submits that future statutory RET reviews be removed.

All investors and stakeholders in the electricity industry, including the renewable energy sector, understand the importance of legislation and regulatory frameworks for their businesses. Equally, all understand that Parliament has the ability to amend laws at any time. The statutory reviews were included in the legislation to encourage regular reconsideration of increasingly ambitious targets. Contrary to those intentions, the statutory reviews have only served to increase uncertainty for all stakeholders and inaction from liable parties. The statutory reviews are not serving the objectives of the RET legislation and should be removed.

Conclusion

This submission has shown that the LRET is making substantive progress towards meeting the objectives of the Renewable Energy (Electricity) Act. A new, sustainable industry has grown to 24,000 employees by building and operating zero emissions and pollution-free electricity generating facilities, which have also reduced Australia's greenhouse gas emissions by over 20 million tonnes. However, more progress is needed in order realise the industry's potential and to contribute to the Government's emission reduction goals.

The Government has made it clear that the primary focus of the RET Review is its impact on retail electricity prices with a view towards reducing any price increases caused by the RET scheme. The prima facie contribution of the LRET scheme is currently less than 1.5% of a typical household electricity bill, and retail electricity prices will rise further before 2020 if the LRET is reduced (or repealed).

Reducing the LRET will have four primary outcomes:

- Manifest sovereign risk in investments in Australia
- Increased greenhouse gas emissions from the electricity sector that will result in increased cost to the Treasury for the Government's Direct Action program
- Reduced economic activity, primarily in regional areas, where new jobs and increased business opportunities and new jobs are particularly needed
- Increased electricity prices for consumers

Thank you for the opportunity to make a submission to this important review.

Yours sincerely,

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