Submission
Renewable Energy Target

(September 2012)

"Reducing pressure on household bills requires genuine competition.

Genuine competition requires new retailers with access to long term generation.

Long term generation will not be available to new entrants without the LRET – as is.

Continuity and stability of the LRET is critical to reducing the pressure on household energy bills."

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Snapshot

Meridian Energy, as one of Australasia's largest renewable energy groups, has a very clear understanding of the Australian energy market, the role of the Renewable Energy Target (**RET**) and other regulatory frameworks, and the importance of competition.

The Government's existing commitment that 41,000 GWh of electricity generation in 2020 will come from renewable sources will mean that somewhere in the order of 41 million tonnes of greenhouse gas emissions are avoided every year, as well as other harmful emissions that are associated with traditional thermal based energy generation.

On the basis of the stability of the Australian market and its policy frameworks, Meridian has committed to spend around $1 billion establishing a position as a renewable generator, energy trading participant and new entrant retailer.

Meridian considers that the RET plays an important role in the markets by efficiently enabling greenhouse emissions to be addressed, encouraging new long term retail competition, and helping to control rising electricity bills for consumers. Specifically:

- The impact of reducing wholesale energy costs is likely to deliver net benefits to consumers, even after the direct costs of Large-scale generation certificates (**LGCs**) and other costs. The impact of increased competition on consumer prices will further amplify these benefits.
- As a market-based solution, albeit to deliver a mandated outcome, the LRET is efficient and effective in delivering that mandate at a low net cost for the market, notwithstanding the introduction of a price on carbon.
- Without LRET, opportunities for generation asset investment which can be accessed by new entrant participants would be lacking. The absence of such opportunities would inhibit the ability of new entrants to participate on a sustained basis in Australia's retail market.

In light of these benefits, and the importance of maintaining a stable market environment for long term asset investments, Meridian's view is that the LRET should not be modified, other than some minor administrative improvements.

Contents

1. Introduction

1.1 Meridian's commitment to the RET

Meridian Energy Australia (**Meridian**) has built a significant position in the Australian energy market, with a focus on efficient and sustainable energy supply for consumers. On this basis, Meridian welcomes the opportunity to provide a submission to the Climate Change Authority's statutory review of the Renewable Energy Target (the **Review**).

In the last five years, Meridian has – on the basis of an efficient National Electricity Market (**NEM**) and a stable Renewable Energy Target – made a number of significant investments in Australia, including:

- The $200 million Mt Millar wind farm in South Australia, acquired with an off-take agreement that will expire at the end of 2012;
- A 50% interest (in joint venture with AGL Energy) in the $1 billion Macarthur wind farm in Western Victoria, which will be completed in early 2013;
- The establishment of wholesale market trading capability supported by a BBB+ credit rating in Australia;
- The $260 million Mt Mercer wind farm, which will be constructed in 2012-2014 and which is not the subject of a long-term off-take agreement; and
- Powershop – a retailing business focused on delivering savings to Australian households by providing them with more choice in the way that they measure, use and pay for electricity.

All of these investments have been made on the basis of the stability of the NEM and the Renewable Energy Target (**RET**).

1.2 Investment horizons and requirements for stability

A commitment to acquire or build renewable generation assets requires an investment horizon of approximately 25 years. The stability of policies that affect the revenues available to generators over that horizon (including the RET) is critical to such commitments, especially those made without long-term off-take arrangements.

It is entirely appropriate that investors should be entitled to rely on policy settings that:

- are explicitly designed to encourage long-term asset investment in Australia;
- were first established in 2000 under a Coalition Government;[1]
- were expanded in 2009 under a Labor Government;[2] and
- have been the beneficiary of bipartisan support during a total investment programme of nearly $20 billion to date.[3]

While the RET scheme has often been summarised as a "20% by 2020" target, this label has simply been a convenient abbreviation for what has always been a fixed volume target. RET related investment decisions have been based on the specific parameters of the legislation, not the media's abbreviations. Any move to abandon the 41,000 GWh long-term target and adopt a target based on 20% of actual demand (or any other target) would:

- retrospectively strip value from investors who have committed nearly $20 billion to the construction of renewable generation assets in reliance on the continuation of the RET in its current form, including Meridian's $260 million commitment to Mt Mercer this month;

[1] The *Renewable Energy (Electricity) Act 2000* put in place a target which operated from 1 April 2001.

[2] The *Renewable Energy (Electricity) Amendment Bill 2009* was passed on 20 August 2009.

[3] See the Clean Energy Council's submission to this Review.

- create market uncertainty, thereby reducing investments in both renewable generation and in electricity generation more generally; and
- increase the risk premium associated with the cost of capital applied to investment in Australian generation assets – a cost ultimately borne by Australian electricity consumers.

1.3 The role of the RET in retail competition

Meridian recognises that affordable electricity for the average consumer is a key requirement for any climate change policy framework. In this context, the Large-scale Renewable Energy Target (**LRET**) may in fact have a net benefit on the average household bill inclusive of network effects [4], and in any event imposes at most a negligible impost (in the order of 2% – see Section 3). This is insignificant in comparison to the retail margins available to retailers in what is a highly concentrated market.[5] In relative terms, sustainable competition and consumer empowerment are far more effective in relieving pressure on household electricity prices when compared to the negligible impact of the RET.

At first glance, Australia has a long history of incubating new entrant retailers, which tend to thrive during benign wholesale market conditions. However, in the long-term such new entrants are often acquired by an incumbent retailer or become insolvent due to insufficient hedging or prudential capital during more volatile phases of the energy cycle.[6] In either case, the benefits to competition of such new entrant activity are short-lived and the market reconsolidates.

So – while a number of markets in Australia (take Victoria as an example) are served by a large number of electricity retailers – only a few of these participants have achieved (or are capable of achieving) genuine vertical integration, with vertical integration being the key to long-term market survival and competition benefits.

Against this backdrop, the LRET serves a critical function in Australia to facilitate genuine, sustainable, vertically integrated competition in this country. Without LRET, investment in generation in Australia would largely be characterised as a call on the direction of domestic and global gas markets, to which Australian wholesale electricity prices are tied. The LRET provides an efficient balancing mechanism to smooth the volatilities that would otherwise confront new entrant generation in this country.

Importantly, a new entrant (integrated) retail market position does not have to be significant in order to have a material impact on competitive pricing across the market. It is estimated that a market position of less than 5% (approximately 20% of long-term annual churn in Victoria) would enable a market participant such as Meridian to deliver savings to consumers of a quantum that would outstrip the net impost associated with the LRET.

1.4 Carbon and other nasties

All cost-benefit analysis that Meridian has seen in relation to the RET ignores the immeasurable cost of health and environmental damage associated with emission of oxocarbons, sulphur oxides, nitrogen oxides, volatile organic compounds and other carcinogenic emissions associated with thermal based generation. LRET displaces the vast majority of new investment in such formats that would otherwise be required to serve Australia's long-term base-load energy requirements.

[4] See further Section 3.

[5] 80% of market share is held by three retailers – Australian Energy Regulator, "State of the Energy Market" Performance Report, 9 December 2011, page 106.

[6] PowerDirect and Jackgreen Energy are examples respectively.

The recent introduction of a price on carbon certainly broadens the base of emissions reduction obligations far beyond electricity generation.[7] This is expected to be most effective in driving emissions reduction through energy efficiency initiatives with short-term investment horizons across a broad base of energy users.

However, the price signals that will emerge from this scheme – linked to global markets for carbon in the medium term – are uncertain. These signals will be shaped by infinite variables in a market that is much less transparent than the market in which Large-scale Generation Certificates (**LGCs**) are traded.

As a consequence, market participants and analysts have greatly divergent views on carbon price forecasts, and there is no consensus on the likely long-term price impact.

Accordingly, the carbon pricing mechanism is not on its own a reliable basis on which to make significant investment in long term renewable generation. In particular, it is expected that the carbon price – absent LRET – will not change the generation merit order until after the market horizon by which new generation investment will be required to support Australia's base-load energy needs.

It is recognised that, as the carbon market matures beyond its current nascent phase, the carbon pricing mechanism will be effective in driving long term generation investments. For this reason, it is appropriate that the LRET is due to expire in 2030.

1.5 LRET market mechanics

While stability of the long-term LRET target (set at 41,000 GWh per annum) is critical to facilitating 25-year asset investments, there are a number of aspects of the mechanics of certificate surrender that result in unintended market inefficiencies and leave the scheme prone to short term manipulation. This is explored further in Section 6.

Accordingly, Meridian suggests a scheme modification whereby certificate surrender is aligned to the quarterly settlement cycle for energy derivatives (to which LGCs are inexorably linked), which has served the market so well for many years. This approach has also proven effective in relation to the surrender of Small-scale Technology Certificates (**STCs**).

2. Policy context

2.1 Australia's emissions reduction commitments

The Issues Paper released by the Climate Change Authority on 20 August 2012 in relation to the Review (the **Issues Paper**) notes the Commonwealth policy commitment of "at least 20 per cent of Australia's electricity from renewable sources by 2020." Australia has also committed to a reduction in greenhouse gas emissions levels to at least 5% below 2000 levels by 2020, and 80% below 2000 levels by 2050. As a developed country with an export intensive economy, "Australia is one of the top 20 polluting countries in the world and produces more carbon pollution per person than any other developed country in the world."[8] LRET is an appropriate and efficient approach to encouraging investment in cleaner energy, a crucial step towards reducing Australia's greenhouse gas emissions.

Meridian is contributing to the satisfaction of Australia's commitments to emissions reduction, and has committed approximately $1 billion to investment in Australian renewable generation assets. LRET has underpinned Meridian's investments in Australia, and will drive significant investment by Meridian in the future.

[7] Only 35% of carbon price revenues are expected to be derived from electricity generation market participants. Australian Government – Department of Climate Change and Energy Efficiency 2011.

[8] Australian Government – Department of Climate Change and Energy Efficiency, 'Australia's Emissions Reduction Targets' Fact Sheet, 1 December 2011 (http://www.climatechange.gov.au/government/reduce/national-targets.aspx).

2.2 Carbon and other nasties

The examination of direct economic costs and benefits associated with the RET ignores the immeasurable cost of health and environmental damage associated with emission of oxocarbons, sulphur oxides, nitrogen oxides, volatile organic compounds and other carcinogenic emissions associated with thermal based generation.[9] LRET displaces the vast majority of new investment in such formats that would otherwise be required to serve Australia's long-term base-load energy requirements.

The recent introduction of a price on carbon will support emission reductions in Australia, and will broaden the base of market participants with emissions reduction obligations far beyond that for the LRET. In fact only 35% of carbon emissions obligations are expected to be borne by electricity generation market participants.[10]

However, the price signals that will emerge from this scheme – linked to global markets for carbon in the medium term – are uncertain. These signals will be shaped by a landscape far more complex and far less transparent than the market in which LGCs are traded. Market participants and analysts have greatly divergent views on carbon price forecasts, and there is no consensus on the long-term price impact.

As a consequence, the carbon pricing mechanism is expected to be most effective in driving emissions reduction through energy efficiency initiatives with short term investment horizons across a broad base of energy users.

Conversely, a price on carbon is not expected to be a reliable basis on which to make significant investment in renewable generation. This is because the long-term carbon price is uncertain and – absent LRET – will not change the generation merit order until after 2020, which is well beyond the market horizon by which new generation investment will be required to support Australia's base-load energy needs.

This means that, while thermal generators will have to pay the carbon price between now and then, there is no prospect of the carbon price on its own forming the basis of significant renewable generation investment between now and 2020. Only $2.1 billion of investment would be expected if LRET did not exist, compared to $13.8 billion of investment expected under LRET.[11]

It is recognised that, as the carbon market matures beyond its current nascent phase, the carbon pricing mechanism will be effective in driving long term generation investments. For this reason, it is appropriate that the LRET is due to expire in 2030.

3. The cost of LRET

3.1 The impact of LRET on wholesale electricity prices

As noted by the AEMC, if the LRET was not in place, wholesale energy prices would be $10/MWh to $15/MWh higher by 2020/21.[12] This is because LRET encourages the construction of generation assets

[9] See also Section 5.3.

[10] Australian Government – Department of Climate Change and Energy Efficiency 2011.

[11] SKM MMA, as cited by the Clean Energy Council in their submission to this Review.

[12] Australian Energy Market Commission, 'Impact of the enhanced Renewable Energy Target on energy markets' Interim Report, 25 November 2011 (http://www.aemc.gov.au/Media/docs/Interim%20Report-c328bb55-bf7a-4a88-8dbd-c12d26e6b8dc-0.pdf) at page 27.

with low marginal costs – leading to a larger proportion of the market that supplies into the wholesale energy market at little or no marginal cost.

Accordingly, this will result in reductions in wholesale energy prices. Reductions in wholesale spot prices are a significant contributor to the overall net benefits of LRET to end users.

3.2 The net cost of LRET

As noted in Section 3.1 above, LRET reduces wholesale electricity prices, and this saving enures to the retailer. LRET also imposes the cost of LGCs on the retailer. Assuming a competitive retail landscape, the net effect of reduced wholesale prices and LGC costs should be passed on to end users via their electricity bills.

Even if conservative assumptions are adopted in relation to demand growth and LGC price, the net cost of the LRET is estimated to have a cost to residential end users of less than 2% of their total price, in 2020.

Specifically, if it is assumed that:

- the LRET target of 41,000 GWh remains unchanged;
- the current shortfall charge of $65 (2012 real dollars) remains unchanged, such that in 2012 real terms in 2020 the shortfall charge imposes a cost on retailers of (assuming a company tax rate of 30%) approximately $73;
- the price of LGCs increases to its maximum between now and 2020, such that paying the shortfall charge is preferable;
- that the impact of LRET on wholesale prices is at the lower end of the AEMC range (ie $10/MWh);
- retail demand drops between now and 2020 to a level below current expectations, say 200,000 GWh (roughly the current level of demand in the NEM); and
- retail prices do not increase in real terms between now and 2020 (notwithstanding forecast increases in network expenditure, and the introduction of the carbon price), such that the residential end user price averages approximately $250/MWh,

LRET can be taken to have a cost to residential end users of less than 2% of their total price in 2020. This is reflected in the equation:

$$\frac{\left(\frac{LRET_{2020}}{D_{2020}} \times LGC_{max} - \Delta W\right)}{R}$$

where:

$LRET_{2020}$	is the LRET target in 2020, being 41,000 GWh per annum;
D_{2020}	is total market electricity demand, assumed in this exercise to be 200,000 GWh p.a.;
LGC_{max}	is pre-tax value of LGCs assuming that LGC market price matches shortfall charge;
ΔW	is the change in wholesale prices arising out of changes to the generation mix associated with the LRET; and
R	is the retail price per MWh.

On this basis:

$$A = \frac{LRET_{2020}}{D_{2020}} \times LGC_{max} = \frac{41{,}000\ GWh}{200{,}000\ GWh} \times \$73 = \$14.97$$

$$B = A - \Delta W = \$14.97 - \$10.00 = \$4.97$$

$$\frac{B}{R} = \frac{\$4.97}{\$250.00} = 1.988\%$$

3.3 "Hidden" costs and benefits are likely a net gain for consumers

However, the calculation in Section 3.2 does not consider the "hidden costs" or "hidden benefits" of LRET that have been described in previous analysis. The net outcome is that such items are likely to result in a net benefit to consumers. A summary of such hidden factors is shown in the table below.[13]

Hidden Costs (per MWh)		Hidden Benefits (per MWh)	
Additional reserve plant requirements	$6.38	Avoided CCGT base plant capital costs	$4.76
Additional transmission interconnection	$0.06	Avoided gas turbine running costs	$4.98
Additional regulation reserve	$0.03	Avoided carbon dioxide emissions ($23/tonne)	$1.50
Total Cost	**$6.47**	**Total Benefit**	**$11.24**
Net Total $4.77 per MWh of benefits delivered by LRET[14]			

Furthermore, the calculations in the table above do not consider:

- The benefits of LRET highlighted in other submissions to this Review, such as the avoidance of cost of capital increases that would be incurred via regulatory uncertainty as a result of any changes to LRET (see Section 5). These benefits (avoided costs) could be in the order of $1.40 per MWh increase in wholesale energy costs (inclusive of LGCs) under a likely scenario.[15]
- The benefits of increased retail competition associated with the LRET – see Section 4.

Importantly, the costs that would be incurred by consumers as a result of political uncertainty that would flow from changes to LRET – impacting not just renewable assets but the entire electricity generation and retail markets – would outstrip the net wholesale cost reductions associated with a reduction in the LRET target.

4. Retail price impacts

4.1 Reducing pressure on household bills is a priority

A substantial number of submissions to this Review indicate that electricity prices paid by end-users are unlikely to be materially increased as a consequence of the LRET. Meridian supports this view (see Section 3), as well as the broader view that the policy framework in Australia should be designed to deliver efficient, cheap and sustainable energy to consumers.

To this end, it is noted that a significant part of a household's electricity bill is made up by the retail margin.[16] In addition, many consumers are unaware of how their bills are calculated, or how discounts and pricing combine to deliver value.[17]

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[13] Simshauser, Paul "The Hidden Costs of Wind Generation in a Thermal Power System: What Cost?" *The Australian Economic Review*, vol. 44, no. 3, September 2011, pages 269 to 292.

[14] This analysis assumed demand in 2020 utilised in Simshauser's paper (see above). Adopting a lower demand assumption would increase the cost on a per MWh basis, while some of the benefits may be slightly lower on a per MWh basis. However, it is unlikely that reductions in demand alone would be sufficient to eliminate the net benefit of LRET.

[15] See AGL Energy's submission to the Review – page 21.

[16] Australian Energy Regulator, "State of the Energy Market" Performance Report, 9 December 2011, page 110.

[17] See for example Brian Robins "High power bill trap for the unwary" *Sydney Morning Herald* 22 September 2012.

New entrant retailers increase competitive tension in retail markets and have the effect of reducing retail prices. As such, policies which allow new entrant retailers to flourish should be encouraged as a means of reducing pressure on household electricity bills.

4.2 The retail landscape in Australia

Australia has a long history of incubating new entrant retailers, which tend to thrive during benign wholesale market conditions. The long-term fate of such new entrants is less of a success story. If a new entrant retailer is successful and amasses a meaningful and profitable share of the market, that new entrant retailer tends to be bought out by an incumbent retailer. If a new entrant retailer is not successful, it becomes susceptible to failure at the hands of under-hedging or increased prudential requirements during more volatile phases of the energy cycle.

In either case, the market reconsolidates and competition is reduced. Accordingly, new entrant retailers will only have a sustained impact on consumer pricing if they survive in the medium to long-term as independent entities.

A new entrant retailer who is not vertically integrated faces a high risk of either failing or being acquired by an existing retailer. Vertical integration is the key to long-term market survival and competition benefits.

While a number of markets in Australia (take Victoria as an example) are served by a large number of electricity retailers – only a few of these participants have achieved (or are capable of achieving) genuine vertical integration.

Some degree of vertical integration in turn is the key to long-term market survival and competition benefits. Vertically integrated retailers are better able to withstand the pressures of the wholesale market cycle, are less likely to fail, and are better positioned to derive investment returns through continued ownership (rather than through sale to an incumbent retailer).

4.3 The role of LRET in retail competition

Against this backdrop, the LRET serves a critical function in Australia to facilitate genuine, sustainable, vertically integrated competition. Without LRET, investment in generation in Australia would largely be characterised by a call on the direction of domestic and global gas markets, to which Australian wholesale electricity prices are tied. The LRET provides an efficient balancing mechanism to smooth the volatilities that would otherwise confront new entrant generation investment in Australia.

Importantly, a new entrant (integrated) retail market position does not have to be significant in order to have a material impact on competitive pricing across the market. It is estimated that a market position of less than 5% (approximately 20% of long-term annual churn in Victoria) would enable a market participant such as Meridian to deliver savings to consumers of a quantum that would outstrip the net impost associated with the LRET.

4.4 The role that LRET plays

Building a new retail business with a degree of vertical integration requires certainty and stability across an investment horizon in the order of 25 years. The stability, certainty and efficiency of LRET combined with the National Electricity Market combines to enable credible participants to invest in long-term vertical integration. Without LRET, there is no stable basis for new entrant generation:

- the price path for electricity (when excluding LGCs) is uncertain, given the uncertainty surrounding demand, carbon, domestic & global gas markets, and future generation;
- thermal technologies are dependent on a fuel cost that involves a call on export markets; and
- investment in thermal generation runs counter to stated Australian and global policies indicating a desire to reduce greenhouse gas emissions, with concomitant political risk.

Meridian is taking the necessary steps to invest in renewable assets here in Australia and to build an integrated retail position. With less than 5% market share, Meridian's presence would have an impact

on prices for all consumers. The impact of that price reduction will significantly outweigh any cost attributed to LRET. Meridian is a clear example that the system is working.

4.5 Increasing choice

Meridian believes that consumers' ability to save money on electricity will be optimised by having access to genuine choices, lower supplier commitment periods, low barriers to exit and transparent information on which to base their supplier selection decisions.

To this end, Meridian's Powershop retail model is based on:

- Financial support of the Meridian Group, which has $8 billion in assets in Australasia[18];
- Investment in approximately $1 billion of generation assets in Australia as a basis for a long term sustainable retail position with some degree of vertical integration;
- Easy to understand information relating to how consumers use energy, and how they can save money;
- Capturing metering intelligence at zero cost – Powershop harnesses the capabilities of smart meters without any implementation cost to consumers, and (where smart meters are not installed) enables consumers to get more out of traditional meters at no cost;
- No lock-in contracts or termination costs – consumers can choose Powershop without making any commitments to minimum contract periods, and they are free to leave (at no cost) if Powershop is not providing a genuine improvement in cost and service quality.

While the Powershop business is currently the subject of an invitation-only trial, the model has been successful in New Zealand, where Powershop has won "Retailer of the year" four years in a row.[19] It is hoped that – when Meridian commits to a commercial rollout in Australia – Powershop will provide Australian consumers with opportunities to increase their understanding of how they get charged for electricity, and how they can reduce their electricity bill.

Meridian's decision to invest significant capital in building a long term sustainable retail position will depend on its assessment of political risk to investment in Australia. The LRET is based on a broadly acknowledged policy position with long-standing bipartisan support, the continuity of which has been the basis of Meridian's investment of approximately $1 billion in renewable energy in this country. Any change to this policy position that has the potential to retrospectively strip value from the investment that Meridian was encouraged to make would gravely impact the appetite for (and ability of) investors like Meridian to establish sustainable retail competition in Australia.

5. The risk of change

5.1 An uncertain policy environment threatens investment

As noted above, Meridian has committed to approximately $1 billion of investment in Australia on the basis of explicit reliance on the LRET. The value of that investment has the potential to be adversely affected if LRET was materially modified, in direct contravention of the market signals that Meridian was encouraged to respond to by the design of the policy in the first place.

Any material change to the long-term operation of the RET would thereby create tremendous uncertainty in the market for investment in renewable energy (and energy more generally) in Australia.

[18] Meridian Energy Limited – 2012 Financial Results Presentation.

[19] Powershop's awards in New Zealand include: Consumer Magazine customer satisfaction survey – #1 four years in a row with unprecedented satisfaction (2009-92%, 2010-92%, 2011-96%, 2012-95%); New Zealand Energy Awards – Innovation in Energy & Energy Best Retailer (2012); Deloitte Fast 50 – New Zealand's fastest growing company.

At present, six of the world's ten most expensive energy projects in the world are taking place in Australia, and together they represent over $220 billion of investment.[20] The desirability of Australia as an investment destination is reduced by policy changes that strip value from those who invest in reliance on policy certainty, and any backflip on LRET will be seen as a red flag for investors in all related sectors.

5.2 The impacts of uncertainty on liquidity and contracting

The emergence of political risk associated with RET and carbon over the last few years has resulted in a significant reduction in open interest for contracts with settlement horizons more than 12 months forward. In fact, open interest in such contracts – as a key indicator of market liquidity – is currently at a small fraction of what has been observed on average since the commencement of forward trading in this market.

This in turn increases the costs associated with managing market risk on a medium term basis relative to a scenario in which such political risk is reduced.

Similar effects are observed in relation to prevailing prices for Power Purchase Agreements (**PPAs**). When political risk increases, the prices offered by PPA off-takers (typically retailers) will naturally reduce to reflect such risks.

However, it is not a requirement of LRET that retailers commit to PPAs for the benefit of independent developer-generators. LRET imposes obligations on retailers to surrender a volume of LGCs each year that is determined by the LRET target for that year and the retailer's market share of demand. How retailers discharge these obligations is (rightly) a matter for them. Writing a PPA is but one mechanism by which these obligations may be met. Retailers are entitled to consider the value of a PPA relative to the cost of constructing their own projects, or managing their risk through wholesale forward markets.

The debate in relation to LRET should be focused on the efficiency of the market in which the underlying commodity (LGC) trades. It should not be focused on whether retailers are (or are not) offering PPAs at prices sufficiently high to support particular projects, unless this is a direct consequence of the mechanics of the LRET scheme contributing to an inefficient market in LGCs.

A stable policy framework provides the best platform on which projects can be commercialised – either via a PPA that reflects a retailer's view of risk and value, or (as Meridian has done) by the application of risk capital to support an independent approach to managing wholesale risk.

5.3 Uncertainty impacts electricity prices

A change to LRET threatens investment in renewable generation assets, which threatens the reductions to wholesale electricity prices set out at Section 3.1. More significantly, a change to LRET threatens the certainty of investments in Australia generally (not just renewables or the electricity market), increasing the cost of capital required in order for investors to offset risk.

As pointed out in other submissions to this Review, lenders will place a greater risk premium on debt sought by those seeking to invest in the Australian electricity market if those lenders perceive the policies that underpin the projects they fund to be at risk of change.

Furthermore, equity investors will demand greater returns from their investments if policy certainty is seen to be at risk. Accordingly, new generation will be deferred until wholesale prices support the increased hurdle rates of return required to offset policy risk. This deferral of investment will in turn

[20] Hargreaves, Steve, "10 most expensive energy projects in the world" CNN Money Article, 27 August 2012 (http://money.cnn.com/gallery/news/economy/2012/08/27/expensive-energy-projects/index.html). The six Australian projects are Gladstone LNG at $30 billion, Curtis LNG at $34 billion, Wheatstone at $35 billion, APLNG at $37 billion, Ichthys at $43 billion, and Gorgon at $57 billion (US Dollars).

result in larger increases in wholesale (and therefore retail) prices at each point of investment for marginal new generation assets.

5.4 The limitation of arguments for removing or reducing the LRET target

Meridian notes that some submissions to the Review suggest that LRET has a substantial cost to end-users, while other submissions posit that removing or reducing the LRET target would have a substantial cost to end-users.

One of the questions posed by the Issues Paper and most keenly in focus is whether or not the 41,000 GWh target should be amended. Any argument that is based on the observation that the 41,000 GWh target may represent more than 20% of demand in 2020, [21] such that LRET represents a more significant impost on end-users than intended, misses the mark on at least two fronts:

- The cost of building enough renewable generation to produce 41,000 GWh per annum in 2020 is not automatically higher or lower if demand in 2020 is different to what we forecast today. The LRET target, being a static number, has a static cost to end-users – the cost that was anticipated when the target was set; and
- This year's forecast suggests low demand in 2020 when compared to previous forecasts, but forecasts change every year. Investors cannot invest based on a floating target. The fixed volume basis of the target is critical to providing investment certainty.

Generation assets operate for decades. A wind farm built today will be in operation decades from now. Such investments require investors who are willing to take a return over decades on the basis of long-term prices set by reference to policy frameworks remaining stable over a horizon equivalent to the horizon of the investment.

The LRET was explicitly designed (with enduring bipartisan support) to provide a market signal for increased investment in renewable generation, which in turn reduces greenhouse gas emissions. Each MWh of renewable generation has zero emissions, compared to on average (in Victoria by way of example) about 1 tonne of carbon emissions MWh currently.

Accordingly, 41,000 GWh of renewable generation in 2020 will mean that somewhere in the order of 41 million tonnes of greenhouse gas emissions are avoided every year. Furthermore, each year millions of tonnes of carbon monoxide, sulphur oxides, nitrogen oxides, volatile organic compounds and other carcinogenic emissions associated with thermal based generation are also avoided. No attempt is made to quantify the cost of such emissions, although it is noted for example that:

- in Victoria's Latrobe Valley, a 2001 Victorian Government commissioned study found mesothelioma incidence seven times the national average among a group of former SEC workers, as well as a high incidence of lung cancer;[22]
- in New South Wales' Hunter Region, the New South Wales Government is investigating a heightened incidence of cancer at a coal loading facility – a University of Newcastle study of 859 people who worked at the facility between 1983 and 2006 found that 63 employees had been diagnosed with cancer.[23]

[21] As demand forecasts today are different to forecasts when the target was set.

[22] Campbell, D, "Review of the health status of power industry workers who participated in SECV Lung Function Program" Report, Melbourne Health: Clinical Epidemiology and Health Service Unit: Melbourne, 2003, page 131, as cited by the Centre for the Study of Health & Society, School of Population Health, University of Melbourne, "Work and Health in the Latrobe Valley: Community Perspectives on Asbestos Issues" Final Report, 2004.

[23] Special Broadcasting Service, "WorkCover probes NSW cancer outbreak" 21 July 2012 (http://www.sbs.com.au/news/article/1670752/WorkCover-investigating-NSW-cancer-cluster).

Converting the LRET to a variable target based on a percentage of annual market demand would:

- Undermine the basis on which the vast majority of nearly $20 billion of renewable energy investments have been made in this country.
- Introduce additional uncertainty into the process by which renewable projects can be assessed against long term market conditions, thereby increasing the cost of all future renewable projects.
- Increase the political risk (and therefore completion risk) associated with investments in Australia, noting that there are currently $200 billion of energy-related investments going on in Australia right now. This impact would manifest in broad-based costs increases that would find their way into end users' electricity bills.
- Undermine the basis on which sustainable, integrated electricity retailers can be developed, thereby preserving current retail market structures and their associated costs to consumers in terms of choice and retail margins.

6. Improving efficiency and short term mechanics

6.1 The current approach to LGC surrender

Currently, LGCs can be traded at any point after their creation up until they are surrendered. Liable entities only need to surrender LGCs once a year, in February. Given the high cost of cash for many liable entities, this acts to suppress demand for LGCs immediately after the surrender date, with demand rising in the period immediately preceding the surrender date.

More importantly, liquidity tends to follow demand, so that liquidity in LGCs for most of the year is negligible, apart from the short window coinciding with LGC surrender dates.

Forward LGC pricing is set in part by reference to spot LGC pricing. Those market participants with a low cost of cash have the ability to shift the spot price during times of low liquidity, which in turn shifts forward pricing. Most LGCs are sold on a forward basis, and this dynamic allows the pricing applicable to large forward trades to be manipulated through relatively small spot trades occurring at times of low market volume.

These impacts are especially problematic for smaller market participants, who tend to have lower access to cash, and who tend to be less frequent traders of LGC positions.

6.2 The regulations behind annual surrender

Currently the *Renewable Energy (Electricity) Act 2000* (Cth) sets out a procedure for LGC surrender, essentially through Sections 44 and 46, whereby a liable entity surrenders LGCs once annually (on or before 14 February of the year following the relevant year), and pays a shortfall charge for any LGCs not surrendered in accordance with liability.

The surrender of STCs is treated differently, as liable entities surrender STCs quarterly, and must (on an annual basis) pay a shortfall charge which is calculated based on the sum of any quarterly shortfalls for the relevant year – without taking any quarterly surpluses in that year into account.

The quarterly surrender of STCs serves to increase STC liquidity throughout the year, and eliminate (or at least greatly reduce) the potential for forward market manipulation. It also brings STC trading in line with energy trading, with the forward market for electricity dominated by quarterly contracts.

6.3 The benefits of Quarterly LGC surrender

Forward prices for LGCs, with LGCs primarily being sold forward or through long-term off-take arrangements, tend to be set in a manner that reflects current spot LGC prices. Where the LGC spot price is suppressed or inflated during period of low liquidity, the LGC forward price will be similarly suppressed or inflated. Market participants with cheap access to cash can drive spot price outcomes through relatively small trades, in a manner which moves forward prices, in order to achieve more

favourable pricing on larger contracts for forward delivery. For example, a well-positioned participant might deflate (inflate) spot prices in order to buy (sell) large forward volumes at deflated (inflated) pricing.

Amending the LRET such that LGCs are surrendered on a quarterly basis (with an annual shortfall assessment in the same way that STCs are surrendered) would eliminate these anomalies and market inefficiency. Such a change would not represent a deviation from the long-standing bipartisan policy position on LRET. It would simply address what is an unintended market distortion associated with implementation mechanics.

7. Conclusion

It is Meridian's view that the Review must recognise the importance of ensuring that any changes to policy frameworks further support the delivery of efficient, cheap and sustainable energy to consumers, while meeting Australia's climate change objectives.

In this regard, Meridian strongly believes that:

- Reducing pressure on household bills **requires** genuine competition.
- Genuine competition **requires** new retailers with access to long term generation.
- Long term generation **will not be available** to new entrants **without the LRET – as is**.
- **Continuity and stability of the LRET is critical to reducing the pressure on household energy bills.**

That the LRET can deliver these consumer benefits while also delivering environmental benefits is a testament to the quality of debate and contribution that has led to the design of the existing scheme.