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TRUSTPOWER SUBMISSION: 2014 RENEWABLE ENERGY TARGET REVIEW

1 Introduction and overview

1.1.1 Trustpower Limited (Trustpower) welcomes the opportunity to provide a submission to the Climate Change Authority (CCA) on its 2014 Renewable Energy Target (RET) Review.

1.1.2 The remainder of this submission is structured as follows:

a) Section 2 provides a brief description of Trustpower, our history of investment in Australia and our interest in seeing the RET remain in its current form;

b) For the purposes of clarity, Section 3 gives a brief introduction to wind investment economics. This section explains the parameters upon which investments are based, and the impact of wind generation on the electricity market;

c) Section 4 contains our main points of submission; and

d) Section 5 provides our recommendation to the CCA.

1.1.3 Trustpower is a corporate member of the Clean Energy Council (CEC) and endorses the CEC's submission to the CCA.

2 Trustpower's interest in the RET Review

2.1 Trustpower Limited

2.1.1 Trustpower is New Zealand's fifth largest electricity retailer/generator, and one of the 15 largest companies by market capitalisation on the NZX.

2.1.2 Trustpower owns and operates a portfolio of 37 hydro generation stations, geographically spread across New Zealand, the Tararua wind farm (New Zealand's largest) on the North Island's Tararua Ranges, a second wind farm at Mahinerangi in the South Island, a diesel peaking plant adjacent to the New Zealand oil refinery at Marsden Point, and the Snowtown wind farm in

South Australia. Trustpower also recently purchased three hydro generation stations and two wind farms in New South Wales through its acquisition of Green State Power.

2.1.3 Trustpower is one of the most experienced wind farm developers and operators in Australasia – its involvement in wind power dates back to its purchase of Stage 1 of the Tararua Wind Farm in 1999. It has a strong track record of asset development, enhancement, operation and maintenance, and has led the industry in lowering the cost of production and improving reliability, particularly with regard to wind generation assets.

2.1.4 It has completed five separate wind developments in the last ten years, with the commissioning of Snowtown Stage 2 in October 2014 the latest. Each of these has been completed on time and within budget, and all are now operated under strong and enduring contractual arrangements. Importantly, each of these projects also enjoys strong landowner and community support. This is something Trustpower prioritises not only during the development of any project, but also in perpetuity following commissioning.

2.2 Trustpower's history in Australia

2.2.1 Trustpower has been active in Australia for the past 11 years, as a result of the support by successive Australian governments of the target of 20% renewable energy by 2020.

2.2.2 Trustpower's Snowtown Wind Farm (SWF) is located in the Hummocks and Barunga Ranges 140km north of Adelaide. As noted in the timeline in Appendix B, Trustpower commenced development of SWF in 2003, and has just completed commissioning of Stage 2.

2.2.3 Key milestones in the development of the 100 MW Stage 1 of SWF included:

a) Commencing negotiations with landowners in March 2003;

b) Securing Development Approval in January 2004;

c) Securing a PPA in March 2005;

d) Finalising a Transmission Connection Agreement in December 2006 and commencing construction shortly thereafter; and

e) Completing commissioning in October 2008.

2.2.4 Following this wind farm's successful operation in the years since, Trustpower commenced construction of the 270 MW Stage 2 of SWF in August 2012. This was the culmination of several more years of focussed effort and negotiation, beginning with the lodgement of an application to vary the existing Development Approval in April 2010. Full commissioning of Stage 2 was completed in October 2014.

2.2.5 Trustpower is pleased to have virtually universal support from the local community for this expansion, which further cements the positive relationships established with the Snowtown Lions club and the establishment five years ago of the Trustpower Snowtown *Lend a Hand Foundation* community fund.

2.2.6 The $645 million, 370 MW Snowtown wind farm is the largest wind farm in South Australia by some margin and accounts for 25% of South Australia's installed wind capacity. It supplies almost 10% of the state's total electricity generation.

2.2.7 Each year, the combined wind farm will inject around $3 million into Snowtown and the surrounding area through operational salaries, landowner payments and community funding.

2.3 Trustpower's future investment aspirations

2.3.1 The Renewable Energy Target is pivotal to the continued successful development and execution of projects of this nature, which itself is a key part of Trustpower's long-term vision.

2.3.2 In addition to the Snowtown Wind Farm, Trustpower is actively exploring wind farm investment opportunities at other sites across several Australian states. Within Australia, Trustpower has established a robust pipeline of well over 1,000 MW of wind projects at various stages of development which, when fully developed, will require investment in Australia in the order of $2 billion.

2.3.3 Over the past few years we have advanced a number of these projects to various stages. We have invested heavily on each of them to purchase development options from initial developers, negotiate and secure landowner approvals, and lodge applications for Development Approvals (with associated consultants' fees). However, the pace at which Trustpower has been advancing these projects has slowed considerably in recent years, due to the uncertainty over the future of the RET. Should the future of the RET be confirmed as being favourable for further renewable development, Trustpower will be able to ramp up its pace of development and ensure swift deployment.

2.3.4 Trustpower also has a development pipeline of over 600 MW of wind and hydro capacity in New Zealand (including over 500 MW with resource consent approval) that it will look to progress when conditions in this market are favourable.

3 Wind investment economics

3.1 Background

3.1.1 As mentioned above, Trustpower has developed, owned and operated wind farms within competitive electricity market environments since 1999. We have a thorough and complete understanding of wind investment economics.

3.1.2 Wind farms have quite different operating characteristics to conventional thermal generation such as coal- and gas-fired plant, and there are a range of factors that need to be understood when assessing the economics of investing in particular developments. These include:

a) Each wind farm's unique operating characteristics;

b) The investment and operational cost structure;

c) Wholesale market earnings profile; and

d) The impact of wind farms (both individual and as a group) on wholesale market dynamics.

3.1.3 We believe it is worth highlighting each of these particular features to the CCA.

3.2 Generation profile

3.2.1 Wind farms (and many other renewable generators) are often referred to as being *intermittent* and *non-dispatchable*.

3.2.2 *Intermittency* refers to the fact that, because they are only able to generate power when the wind is blowing, wind farms do not always operate at their full output capacity.

3.2.3 Figure 1 below illustrates the distribution of half-hourly output from Trustpower's Snowtown 101 MW[1] Stage 1 wind farm for the past four years. Over this period, the wind farm produced practically no power for approximately 8% of the time, but produced above 40 MW 50% of the time (referred to as the half-hourly 'P50' output level). In 13% of the half-hours over this period it was producing over 90 MW.

[1] Note that Snowtown Stage 1's maximum output is capped at 98.7 MW under the terms of its Connection Agreement.

3.2.4 On average, at any given point of time, Snowtown Stage 1 will be producing around 44% of its full output (the red dotted line in the chart)[2]. This value – the average output level over a particular time period – is referred to as the wind farm's *capacity factor*.

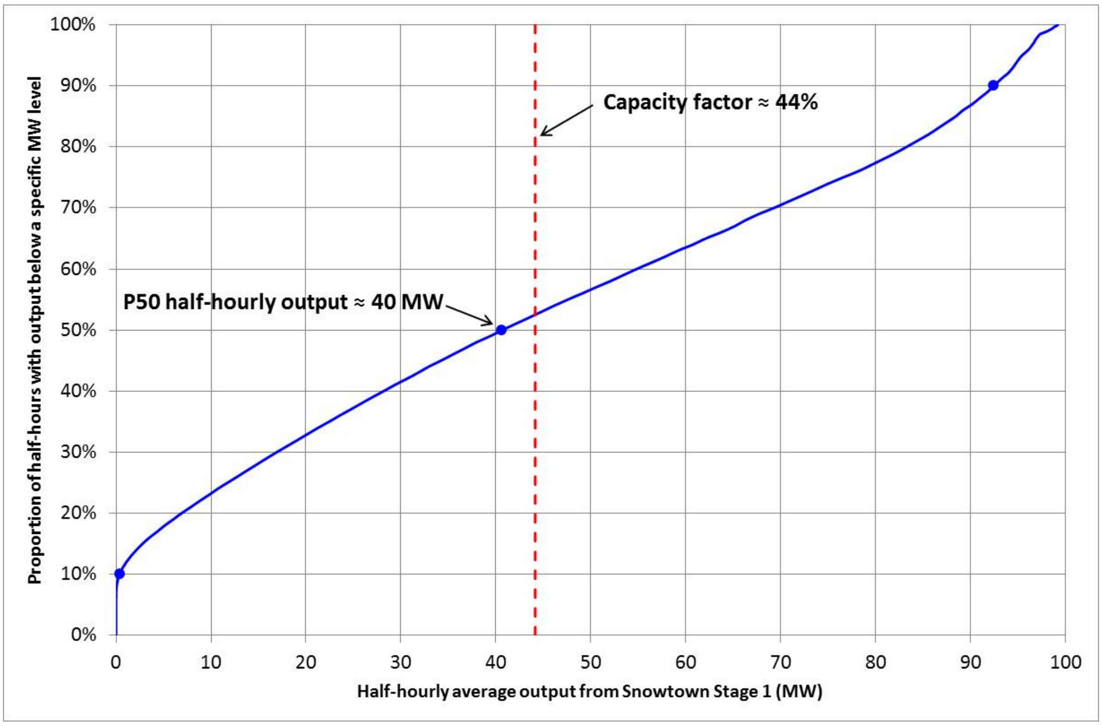

Figure 1: Distribution of Snowtown Stage I half-hourly output, Jan 2011 – Mar 2014

3.2.5 A generation plant that is *non-dispatchable* cannot be turned up to its full output level on demand. As discussed above, a wind farm can only produce power when the wind is blowing, and its maximum output level is governed by how strong the wind is blowing. A wind farm's output can be reduced *below* the level determined by the wind speed, but it cannot be increased above that level.

3.2.6 Note that no generation plant on the system (whether renewable or not) has guaranteed availability, as all plant are required to be taken offline for maintenance periodically and also suffer from unplanned outages. A typical thermal plant may be offline for between 10-20% of the year, therefore such a plant actually generates power in fewer periods of the year than a wind farm.

3.2.7 Being composed of a large number of separate wind turbines, a wind farm also benefits from having a significantly increased diversity of its component parts compared with a conventional thermal plant. In other words, the single unit risk is much lower with a wind farm.

3.2.8 Wind farms' output across individual years is also variable, but not as variable as one might expect (and certainly less variable than other forms of renewable energy such as hydro).

a) As can be seen from Figure 2 below, the modelled distribution of total annual output from Snowtown Stage 2 is relatively narrow.

b) Median (P50) annual output is just under 1000 GWh per annum, at a capacity factor of 42%. There is a 10% chance of total annual output being less than 825 GWh, (a capacity factor of 35%) and a 10% chance of annual output exceeding 1150 GWh (49%).

3.2.9 Wind farm output is therefore relatively reliable, year-on-year.

[2] The average output level exceeds the P50 output level because of the truncation of the output distribution at zero (i.e. output cannot go below 0 MW).

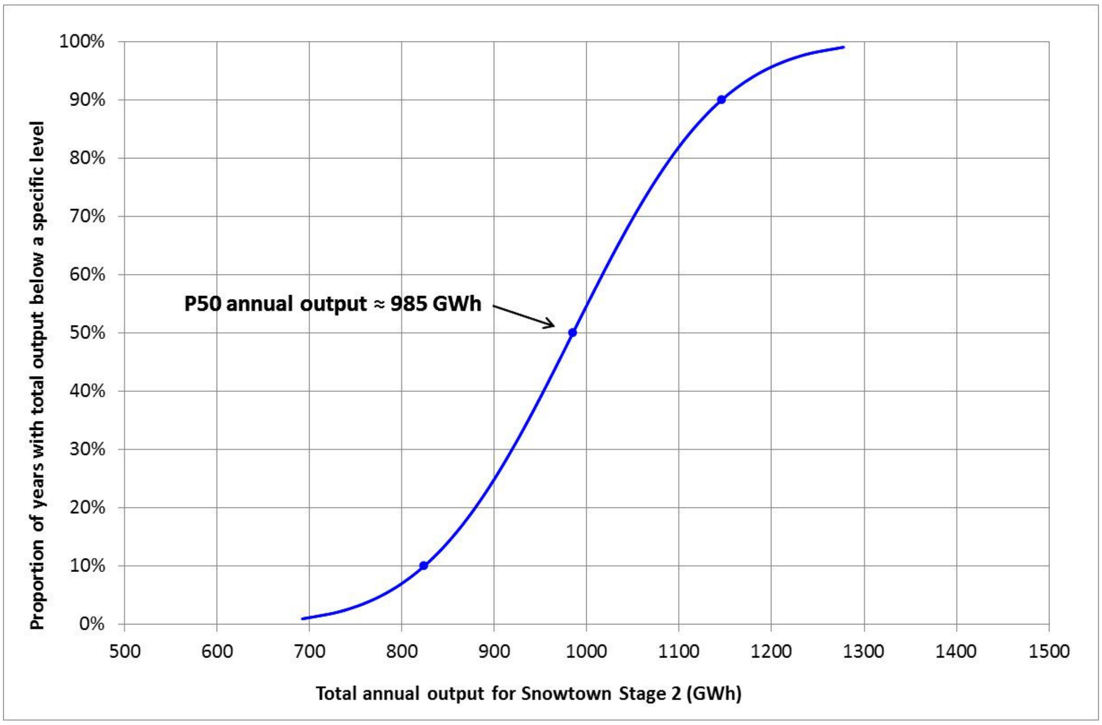

Figure 2: Forecast distribution of Snowtown Stage 2 annual output

3.3 Investment and operational cost structure

3.3.1 Like all other forms of electricity generation capacity, wind farms incur long-run costs (covering their construction), annual fixed costs, and short-run costs (covering their operation).

3.3.2 Relative to gas-fired thermal generation plant, wind farms cost more to construct for each MW of capacity, but they are far cheaper to construct than coal or nuclear. They incur costs for foundations, towers, nacelles (including generators and gearboxes) and blades, as well as for collector networks and transmission connections.

3.3.3 In contrast to thermal plant however, wind farms are powered by the wind rather than coal or gas, and their fuel is free. Operational costs are therefore much lower than for conventional generation. Further, their operational costs are not subject to movements in commodity prices, in contrast to the costs of thermal plant.

3.3.4 However, the operational costs for many wind farms are often variable, such that each MWh of generation produced does still incur a maintenance cost. A wind farm's *short-run marginal* (or *operational*) *cost* is therefore not zero. These are generally in the order of $5-20/MWh.

3.3.5 A project's *levelised* (or *long-run marginal*) cost is calculated as the total project cost over its lifetime divided by the total output the project expects to produce in its lifetime. It is the sum of the short-run costs per unit of output, plus the non-variable costs smeared over each unit of output.

3.3.6 As noted in Appendix B, the total investment cost of Snowtown Stage 2 was $440 million. This equates to $1.63 million per MW of installed capacity. With a relatively low investment cost and a relatively high yield (at an average capacity factor of 42%), its levelised cost has been calculated by external analysts to be in the order of $77/MWh[3].

[3] Calculations of Snowtown Stage 2's levelised cost were undertaken by Deutsche Bank, and have been referred to at http://reneweconomy.com.au/2012/snowtown-project-shows-wind-costs-below-80mwh-17727. Note that Trustpower has neither commented on nor confirmed these estimates.

3.4 Wind farm revenue

3.4.1 Spot prices in the Australian market in recent years have not averaged levels high enough to cover the levelised cost of wind developments such as Snowtown. As is the case in virtually every electricity market in the world (with the exception of only New Zealand's), investment in wind farms is therefore not economic without some form of further incentive.

3.4.2 Wind farms in Australia earn revenue from two different markets – the wholesale electricity market, and the Renewable Energy Certificate (REC)[4] market. Wind farms earn a price per MWh for their output in both markets. In order for the wind farm to be profitable, the average price it earns across both markets for each unit of output must exceed its levelised cost.

3.4.3 If there are enough wind farms on a system, and their output is sufficiently correlated, they can have the effect of suppressing wholesale prices when they generate. This means that the prices when wind farms are operating are less than when wind farms are not operating.

3.4.4 This is shown graphically in Figure 3 below, which shows the half-hourly output from Snowtown Stage 1 (the red line) and half-hourly South Australian NEM prices (the blue line) for one particular day in April 2013.

a) For the first few hours of this day, output from Snowtown Stage 1 was at average levels; however output fell to zero between 9am and 2pm. From 4pm onwards production ramped back up quickly, reaching nearly full output by the evening. Output declined again from 10pm.

b) Given the correlation between the output of wind farms in similar locations, Snowtown's production levels could be assumed to be reasonably representative of the output of South Australia's wind as a whole, and on this day the impact of wind generation on wholesale market prices is clearly evident. Prices were low in the early hours of the day, but climbed to over $100/MWh through the middle of the day as wind production declined. Once wind output ramped back up again later in the afternoon, prices fell back down to the levels at which they had been at the start of the day.

c) The average spot price across the day as a whole was $72/MWh (referred to as the *time-weighted price*, or *TWAP*). However, the average price the wind farm earned per unit of output (the *generation-weighted average price*, or *GWAP*) was only $57/MWh, due to the fact that prices were lower in the periods in which the wind generation was higher. The ratio of GWAP to TWAP was around 80%.

[4] Since 2012, RECs for larger renewable generators have in fact been reclassified as "Large-scale Generation Certificates" (LGCs).

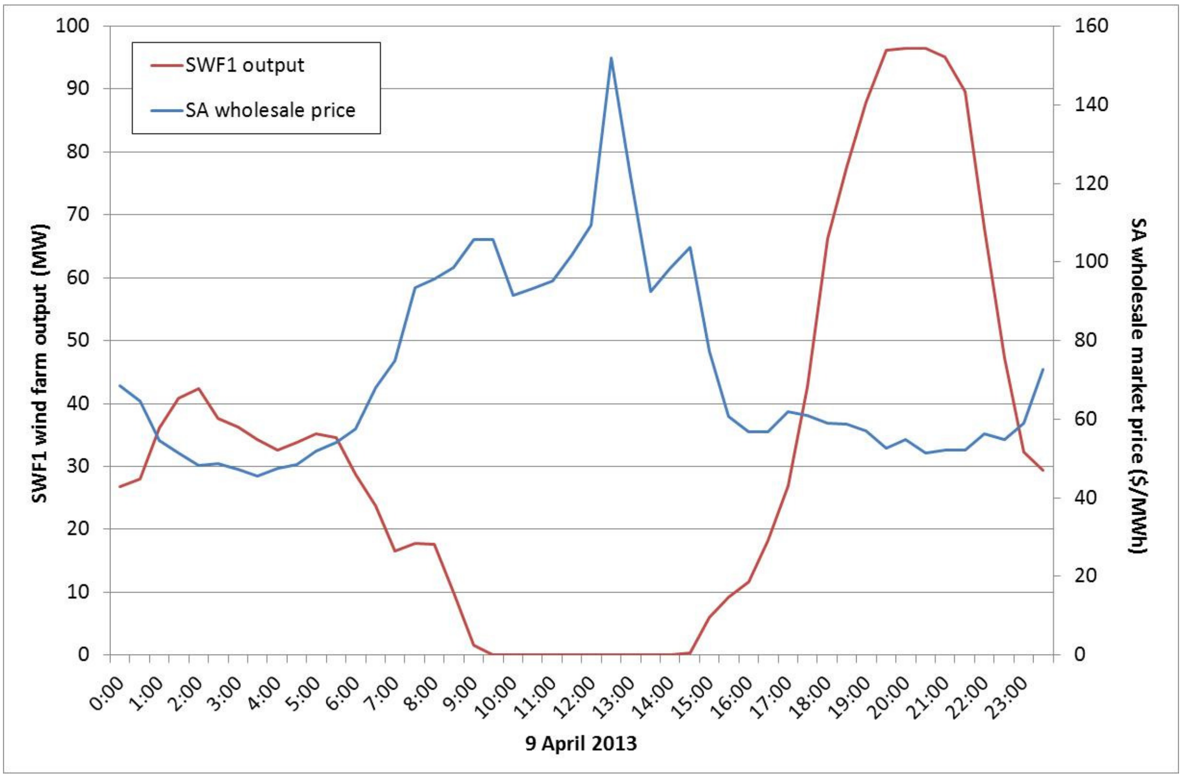

Figure 3: Snowtown Stage 1 output and South Australian pool prices, 9 April 2013

3.4.5 On average, across the entire period from January 2011 to March 2014, Snowtown Stage 1 earned an average of $45/MWh from the spot market for each unit of its output (the GWAP) compared with an average spot price across the period of $52/MWh (a ratio of around 86%[5]). Therefore, the prices in the periods in which the wind was blowing were much lower than the prices when the wind was not.

3.5 The merit order effect

3.5.1 The reason prices are reduced when the wind is blowing is because fewer of the more expensive thermal plant are required to be dispatched in those periods. This is referred to in the literature as the "merit order effect", referring to the fact that if all generators are ranked in order from lowest cost of generation to greatest cost of generation (called the "merit order"), when the wind blows we do not have to dispatch as many of the expensive generators at the top of the merit order to meet demand, *ceteris paribus*.

3.5.2 Intuitively, prices will clearly be lower when there is more wind production at the bottom end of the merit order. While all generators are able to suppress spot prices through their operation, the effect of price suppression is more marked in the case of wind farms as opposed to thermal generators, due to the fact that thermal generators offer their output to the market at prices greater than zero – hence the prices do not fall as much when thermal plant are operating.

3.5.3 This illustrates clearly that, as well as producing emission-free electricity, wind farms have the added benefit of suppressing market prices below the level they would be if the wind farms were not on the system.

3.5.4 Over time, this should lead to lower contract prices and lower prices for the energy consumed by retail customers.

[5] Ratios of this order of magnitude (i.e. materially less than 100%) are also consistent with our experience in wind farm operation New Zealand's wholesale market, for which we have a much longer history (dating back to the mid-1990s).

3.5.5 Obviously the lower wholesale prices are, the greater the level of incentive required in order for investment in renewables to proceed. However, as explained in the CEC submission, the savings to consumers resulting from a reduction in energy prices (which applies to **every single** MWh purchased from the market) offsets to a large extent (and may even outweigh) the total amount paid by consumers for the RET, as payments for the RET only apply to the incremental costs of a **small proportion** of total power produced in Australia.

3.5.6 In fact, modelling undertaken for the CEC suggests that, if retained in its current form, by 2020 the RET should lead to a net reduction in consumer charges of at least $51 per year compared with if it were abolished entirely.

3.5.7 Note that the net reduction in retail tariffs as a result of the RET has also been illustrated in other modelling. For example, Sinclair Knight Merz (SKM) noted in their 2013 assessment of the impact of the RET on retail prices[6] that:

> *"The [retail] price reduction is due to the wholesale price effect of the LRET, which - at approximately $12/MWh over the period 2011-2025 (in real mid-2012 dollars) - more than outweighs the impact of increased liabilities for certificates as the target grows."*

3.5.8 In their report SKM also discusses the merit order effect in depth, and surveys the international literature for empirical evidence of the impacts of the effect in other jurisdictions.

3.6 Conclusion

3.6.1 While wind farms are intermittent and non-dispatchable, as illustrated in the sections above they do produce power for over 90% of the time. Their total output does not vary significantly from year to year.

3.6.2 The risk of single unit failure is also much lower for wind farms than thermal plant, given they are composed of a large number of individual turbines.

3.6.3 Unlike thermal generation, the largest component of the levelised cost of a wind farm is its up-front investment cost. Wind farms' operational costs are very low, and, unlike thermal plant, their operational costs are not subject to commodity price market forces.

3.6.4 When the wind is blowing strongly across a group of wind farms, their output can have a significant dampening impact on spot prices. This is due the fact that wind output reduces the need to run expensive thermal generation.

3.6.5 Over time, the reduction in wholesale prices caused by wind generation should decrease the energy component of consumers' bills for **every** unit of power they consume. While the RECs earned by wind generators do have to be paid for by consumers, this is only for a **small proportion** of overall generation. It is quite conceivable that the reduction in energy purchase costs due to wind generation outweighs the expense of the RECs required to be purchased.

4 Key points of submission

4.1 Impacts of the RET on consumers' bills

4.1.1 The overall impact of the RET on consumers' bills is unclear. The reduction in the energy component will be offset to some degree by consumers having to pay for the renewable generation. However, as noted in the body of our submission, consumers receive the benefit of a reduction in energy prices for **every** unit of power consumed, but only have to pay the extra cost for a small proportion of overall generation.

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[6] Sinclair Knight Merz (2013). *Estimating the Impact of Renewable Energy Generation on Retail Prices*. Available online at http://images.smh.com.au/file/2013/06/25/4518185/SKM.pdf

4.1.2 As discussed above, modelling undertaken for the CEC suggests that, if retained in its current form, by 2020 the RET should lead to a net reduction in consumer charges of at least $51 per year compared with if it were abolished entirely. This conclusion is also supported by the findings of the government's own review.

4.2 Australia's options for future generation

4.2.1 The RET provides for a direct replacement of inefficient, carbon-intensive thermal generation with emission-free renewable generation. Importantly, it allows the market to determine which thermal generators should be retired, as they become increasingly uneconomic, and replace them by the most economic renewable generation. There is no need for a central authority to dictate which plants should retire or which renewable technologies should be built - all that is required is a stable and transparent regime with a guaranteed tenure. It can then be left up to market forces to deliver the desired outcomes and maximise benefit to consumers.

4.2.2 While demand growth in Australia has been subdued in recent years, it is quite possible that growth will resume again in future. If or when that occurs, Australia will need to source a quantity of new generation capacity on an ongoing basis.

4.2.3 Without further renewable development, Australia's options are limited. New coal build is very unlikely, particularly given the potential for carbon charging of some form or other to be introduced at some stage in the future. Without renewable development, it is likely that gas-fired generation would be required to pick up the slack. The gas burnt in these stations would likely be priced at export levels, which would mean that, for the first time, Australia's electricity prices would be subject to international market forces. Gas prices in future could be an order of magnitude greater than today.

4.3 Wind farms' positive impact on local communities and landowners

4.3.1 As a developer, we have direct, first-hand experience of the impact of renewable development on regional communities. As discussed in Appendix B, the construction of Snowtown Stage 2 occurred over a two and a half year period. During this construction period, up to 225 people were directly on the construction project. The equivalent of 160 full time employees worked on Stage 2, equating to around 500,000 man hours.

4.3.2 The Stage 2 project has provided a major boost to the local and regional economy. Around 25 – 30 local and state contractors and consultants were employed through the project. The total spend on those people and their employers was approximately $85 million, out of a total project budget of $440 million (on top of the $205 million total spend on the Stage 1 development).

4.3.3 Now it is fully operational, Snowtown Stage 2 will employ up to 15 people on an ongoing basis, in addition to the eight permanent staff now employed at Stage 1. Each year, the combined wind farm will inject around $3 million into Snowtown and the surrounding area through operational salaries, landowner payments and community funding.

4.4 Reform of the RET

4.4.1 We do not believe the RET should be reformed, except for the lengthening of the lifetime of the scheme to at least 2040. This will give certainty to investors that the scheme will be in existence long enough to stimulate and support investment.

4.4.2 If any reforms to the RET are to be made, it is vitally important that the legitimate expectations of investors are protected.

4.4.3 As discussed in the accompanying NERA report (provided as Appendix A), increases in the perception of regulatory risk will increase the cost of capital of all potential investors in the market. This will in turn increase hurdle rates, delay investment and increase energy prices to consumers. As NERA notes, increasingly negative perceptions of regulatory risk could also flow on to investors in regulated markets outside of the energy sector.

4.4.4 The impact of retaining the RET at its current level would be significant. This would provide the certainty that the industry needs to resume its pace of expansion and continue on towards the gradual decarbonisation of Australia's energy sector.

5 Recommendations

5.1.1 There are clear benefits to investment in and operation of renewable generation. Further, as discussed above, wind farms have the added benefit of suppressing wholesale market prices, which significantly reduces the effective net cost for the RET required to be paid by consumers in their retail tariffs.

5.1.2 Trustpower's experience in investment in South Australia to date illustrates that investment in wind farms requires a long-term commitment on the part of developers. Such commitment requires long-term, bipartisan support from policy makers, which has been the case to date.

5.1.3 Given the history of renewable investment in Australia, we believe the optimal approach, and one consistent with the best-practice principles and arrangements discussed in the accompanying NERA report, would be for the CCA to maintain the existing RET scheme in its entirety. As discussed above, we do not believe the RET should be reformed, except for the lengthening of the lifetime of the scheme to at least 2040.

5.1.4 Failing this, if the CCA were to determine that a reduction in the 2020 target were necessary, we suggest that the CCA should implement an increased target for 2025.

5.1.5 Either way, we request that CCA recommends to extend the life of the scheme to at least 2040 to give certainty to investors that the scheme will be in existence long enough to stimulate and support investment.

5.1.6 In tandem with the recommendations above, we would also support the review period being extended to at least four years, and the scope of the reviews being narrowed significantly, to focus on simply the size and trajectory of the target (or even just reporting on progress against the targets). This will serve to ensure the scheme best meets its objectives.

Please feel free to contact me if you have any questions regarding the material in this submission.

Regards,

PETER CALDERWOOD
GENERAL MANAGER TRUSTPOWER AUSTRALIA

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Appendix A: NERA Economic Consulting Report

NERA Economic Consulting (2014). *Regulatory Change Management and the RET Scheme Review***.** A report for Trustpower Limited.

[attached]

Appendix B: Snowtown Wind Farm Case Study

The township of Snowtown is located 140 km north of Adelaide, in the Wakefield region. It is a small rural community with a population of approximately 500 people.

Construction and Generation Capacity

The Snowtown Wind Farm is the largest wind farm in South Australia. The wind farm was built in two separate stages.

As detailed in the timeline at the end of this case study, Trustpower began developing the Snowtown Wind Farm in 2003. Construction of Stage 1 commenced in 2006, and full commissioning was completed in 2008. The Stage 1 Wind Farm consists of 48 turbines each with a generating capacity of 2.1MW. The Stage 1 Wind Farm has a total generating capacity of 365 GWh per year, which is enough electricity to supply 60,000 South Australian homes. It also offsets 250,000 tonnes of CO_2 emissions per year.

Construction of Stage 2 of the Snowtown Wind Farm commenced in July 2012 and it was completed in October 2014. The Stage 2 Wind Farm consists of 90 turbines, each with a generating capacity of 3 MW. The Stage 2 Wind Farm has a total generating capacity of 985 GWh per year, which is enough electricity to supply 170,000 South Australian homes. It will also offset 700,000 tonne of CO_2 emissions per year.

Now fully operational, the whole Snowtown Wind Farm produces enough electricity for over 230,000 South Australian homes, with an installed capacity of 371 MW and producing 1350 GWh per year.

Employment and Expenditure

The construction of Stage 2 occurred over a 2 year period. During this period, up to 225 people have been working directly on the construction project. The equivalent of 160 full-time employees worked on Stage 2, equating to around 500,000 man hours.

The project has provided a major boost to the local and regional economy. Around 25 - 30 local and state contractors and consultants were employed through the Stage 2 project. The total spend on those people and their employers was approximately $85 million, out of a total project budget of $440 million (on top of the $205 million total spend on the Stage 1 development). Stage 2 will continue to employ up to 15 people on an ongoing basis, in addition to the eight permanent staff now employed at Stage 1.

Each year, the combined wind farm will inject around $3 million into Snowtown and the surrounding area through operational salaries, landowner payments and community funding.

Environmental and Cultural Benefits

Due to the large generation output of the Snowtown Wind Farm, the scale represents an important contribution towards Australia’s clean energy commitment. The wind farm will offset 950,000 tonnes of greenhouse gas emissions per annum. That is the equivalent of removing around 225,000 cars from the road.

The primary environmental mitigation package is the *Native Grassland Significant Environmental Benefit Offset Programme* which involves the rehabilitation and enhancement of 104 Ha of grasslands. This offset programme includes a native tree and shrub planting programme, and will result in improved native grasslands biodiversity and improved land productivity. It will also provide increased habitat protection for pygmy blue tongue lizard population.

Trustpower has also supported Cultural Heritage initiatives, and has facilitated Aboriginal training and employment opportunities and has ongoing contributions to Aboriginal community funds.

Aboriginal heritage protection throughout the project has included surveys, monitoring and artefact preservation, along with agreed exclusion areas.

Community Relationships

The strong relationships Trustpower has shared with landowners and local community groups have been fundamental to the project success. Trustpower, Siemens Limited and local contractors have forged numerous links with the local community, both on and off the project site. Our ongoing *Lend a Hand Foundation* initiative is now also supported by Siemens. Initiatives such as local club and community sponsorships, native vegetation planting, cultural heritage initiatives, and coordination with the County Fire Service have all enabled us to gain a genuine understanding of the local community and how we can work alongside them.

This degree of mutual respect and connection is reflected in the fact that, for both stages, there were no submissions from the local community objecting to our Development Approval applications. This bond has resulted in the local community being strong advocates for both the Snowtown project and Trustpower's other wind farm opportunities throughout the state.

> *"The Snowtown project has been instrumental in bringing the community closer together and establishing a positive vision for Snowtown and the surrounding area. The* Lend a Hand Foundation *has empowered the community to deliver projects that are important at the grass roots level",*

– Alan Large, Chairman of the Snowtown Lions Lend a Hand Foundation.

The presence of the wind farm in the Snowtown community has led to other partnerships and sponsorships being formed with Trustpower. This includes with community groups such as the Snowtown Lions Club, the Snowtown Community Centre and various local clubs.

Key milestones in the development of the Snowtown Wind Farm

March 2003	Trustpower commenced negotiations with landholders for development of Snowtown Wind Farm, and executed investigation agreements
2003	Trustpower formed an agreement with Wind Prospect to pursue a joint Development Approval to develop both stages of the Snowtown Wind Farm (SWF)
October 2003	Lodged Development Approval application for SWF Stages 1 and 2
January 2004	Secured Development Approval for SWF Stages 1 and 2

Snowtown Wind Farm Stage 1 (101 MW)

March 2005	Secured PPA for SWF Stage 1
November 2005	Trustpower purchased Wind Prospect's portion of the project site
December 2006	Secured Transmission Connection Agreement for SWF Stage 1
January 2007	Commenced construction of SWF Stage 1
October 2008	Final commissioning of SWF Stage 1

Snowtown Wind Farm Stage 2 (270 MW)

April 2010	Lodged Development Approval variation for SWF Stage 2
September 2010	Secured Development Approval for SWF Stage 2
May 2012	Secured PPA for SWF Stage 2
May 2012	Secured final landowner approvals and variations for revised SWF Stage 2 layout
June 2012	Secured Transmission Connection Agreement for SWF Stage 2
August 2012	Commenced construction of SWF Stage 2
October 2014	Final commissioning of SWF Stage 2