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13 September 2012

Climate Change Authority
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Dear Climate Change Authority members,

RE: Renewable Energy Target Review – Issues Paper

As a developer and owner of thermal and renewable power stations around Australia, RATCH-Australia Corporation (RAC) is pleased to provide a response to the questions raised in the Renewable Energy Target Review Issues Paper. RAC is an independent power producer headquartered in Sydney, with an operating portfolio of one coal-fired power plant, three gas-fired power plants and three wind farms. RAC also owns a portfolio of wind farm development sites.

If you would like further information or should you have any queries, please do not hesitate to contact me at the details provided below.

Kind Regards,

David Smith

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RATCH-Australia Corporation

Large-scale Renewable Energy Target

1. Are the existing 41,000 GWh LRET 2020 target and the interim annual targets appropriate? What are the implications of changing the target in terms of economic efficiency, environmental effectiveness and equity?

SUMMARY

- **To ensure investment occurs, the LRET target of 41,000 GWh by 2020 should not be changed.**
- **The LRET mechanism results in high economic efficiency by ensuring that the lowest cost renewable projects are bid first. Uncertainty is delaying projects, which will lead to economic inefficiencies.**
- **As gas prices rise, it is entirely possible that the long run marginal cost of wind energy will be lower than for gas fired power stations**
- **To maximise environmental effectiveness, the LRET should be complimentary to the actions of countries globally. Australia's target is significantly lower than many leading economies.**
- **The LRET does not contribute materially to the retail cost of electricity. A lowering of the LRET target would result in higher costs being imposed on the nation due to adverse climate change impacts.**
- **Public support for renewable energy remains high.**

The 41,000 GWh LRET 2020 target is appropriate and should remain the same until 2020 in order to provide investment stability. The biggest issue for the electricity industry in terms of the RET is the stability of the target. There must be certainty in the target in order to drive investment.

The near-term interim targets for the next few years would ideally be higher in order to soak up the excess LGCs from the solar multiplier as quickly as possible, however it is acknowledged that a hump in the near-term may not be reasonable given the short timeframe that would then be required for the construction of new projects. RAC therefore recommends that the interim annual targets be left as they are.

The electricity industry has been able to meet the requirements of the RET to date and RAC expects that the industry will be able to meet requirements to 2020.

A new post-2020 target is appropriate, in which case it would be advantageous to set such a target as soon as possible in order to provide long-term investment certainty.

Economic Efficiency

The LRET to date has been successful in delivery economically efficient renewable energy generation. The LRET's market-based bidding system efficiently ensures that bidders and offerors are matched appropriately to ensure lowest-cost renewable energy generation is brought to market first.

Uncertainty about the LRET target is causing investment delays

Uncertainty about the future level of the RET is leading to caution in investment in renewables. Developers of renewable projects currently face difficulty in achieving financing for projects due to this uncertainty, as offtakers (primarily the electricity retailers) seek to pass on RET review risks to the project owners. In addition, offtakers are reticent to sign offtake agreements due to this uncertainty.

Developers of all power projects, including fossil-fuelled projects, face the same risks and additional costs due to the uncertainty in future electricity policy. Any continuing uncertainty in the RET scheme will lead to continued economic inefficiency (ie higher electricity pool prices) as a result of:

- higher project funding costs and hence higher electricity prices to recoup the higher cost of funding. When faced with this uncertainty, debt providers will require a lower amount of leverage, which results in lower returns for owners unless electricity prices rise;
- delays in construction of renewable power projects in the short- to medium-term may lead to a rush for project construction in the few years before 2020. This would place a high demand on skilled construction professionals, construction crews and construction equipment such as specialist cranes, specialist trailers for transport, and civil and electrical equipment such as trenching machines, high voltage transformers and switchgear. It may also place a high demand on equipment manufacturers, for example wind turbine, solar PV and solar thermal suppliers. Such demand would be likely to increase the cost of project equipment and construction, which would also lead to an increased cost of electricity for consumers down the track compared to having a stable ramp-up of construction of renewable projects.
- construction of new fossil-fuelled power plants, such as new coal-fired or gas-fired plant, to replace delayed renewable generation. These plants may be required to shut down before the end of their design life as a result of higher carbon prices. Costs of construction of all generation are passed on to consumers so such investment and premature closure of power plants would lead to a higher cost of electricity in the long term.

By 2020, the cost of generation from wind and gas is likely to be similar

The price of generation from wind and gas is expected to be similar by 2020. As a result of rapid growth in energy use by our regional neighbours, Australia's coal and gas reserves are increasingly in demand, resulting in a substantial increase in the domestic price of these commodities to compete with international pricing. Reliance on these commodities for Australia's low cost energy supply is becoming increasingly difficult. Domestic buyers of gas already face difficulty arranging long term supply contracts because resources are being allocated to offshore markets.

Recent research shows that, based on reasonable market expectations for gas prices, the Long Run Marginal Cost of gas generation is higher than the price at which wind power projects are feasible.

Generation using no/low carbon emissions intensity will reduce the costs of climate change

Chapter 11 of the *Garnaut Climate Change Review* (commissioned by the Australian Government, delivered in May 2011), on costing climate change and its avoidance, examines the mitigation costs to Gross National Product through the 21st century and concludes that stronger mitigation is justified by benefits in insurance value and non-market values in the 21st century and much large benefits beyond, and that "the costs of action are less than the costs of inaction". The RET is one form of action to which this statement applies, and a higher RET target post 2020 is likely to be economically beneficial for Australia.

It would appear to be most economically beneficial to increase the Renewable Energy Target to a significantly higher number over a certain timeframe, with the ability to bring forward the target if more generation is constructed than expected at the time of making the target, and without the ability to reduce the target. It may even be a consideration to require all new generation infrastructure to be renewable generation until the target is reached. This would create a stable investment environment and lead to a more economically efficient rollout of power generation projects over time.

Environmental Effectiveness

Australia's high emissions intensity will reduce as a direct result from the introduction of wind generation capacity. Australia's per capita carbon emissions are the highest in the OECD and among the highest in the world. Australia's per capita electricity consumption is significantly higher than the OECD average, while our per capita emissions due to electricity generation are more than three times the OECD average (see Figure 1 and Figure 2). The difference is due to the high emissions intensity of electricity generated in Australia and the *Garnaut Climate Change Review*, 2008, points out that relative to other OECD countries, Australia's high emissions are mainly the result of our reliance on coal for electricity and energy intensive industry.

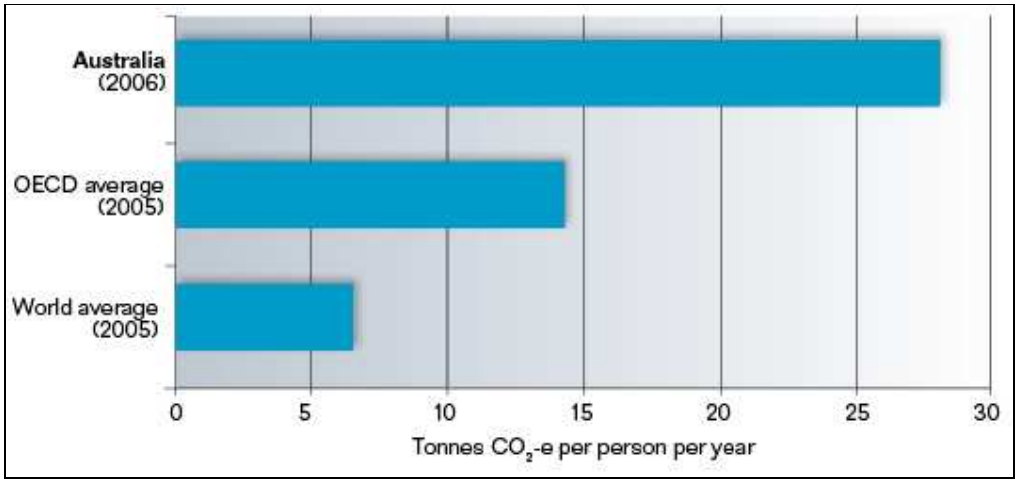


Figure 1: Per capita greenhouse gas emissions (Garnaut Climate Change Review, 2008)

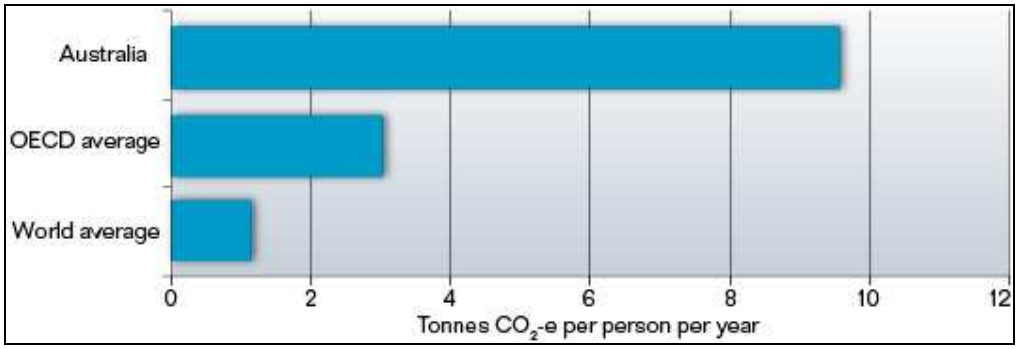


Figure 2: Per capita emissions due to electricity, 2005 (Garnaut Climate Change Review, 2008)

As more renewable capacity is built, the emissions intensity of electricity production delivered falls because the zero emissions renewable capacity, which has very low marginal cost, displaces higher marginal cost, emissions-producing coal, gas or distillate-fired thermal generation capacity. Figure 19 below, from the Clean Energy Council's *Wind farm investment, employment and carbon abatement in Australia Report* from June 2012 shows that every MWh of generation from wind farms in the National Electricity Market directly reduces carbon emissions by a factor that varies depending on the generation technology that is displaced in each state. Any renewable generation due to the RET scheme would thus be effective in reducing Australia's carbon emissions.

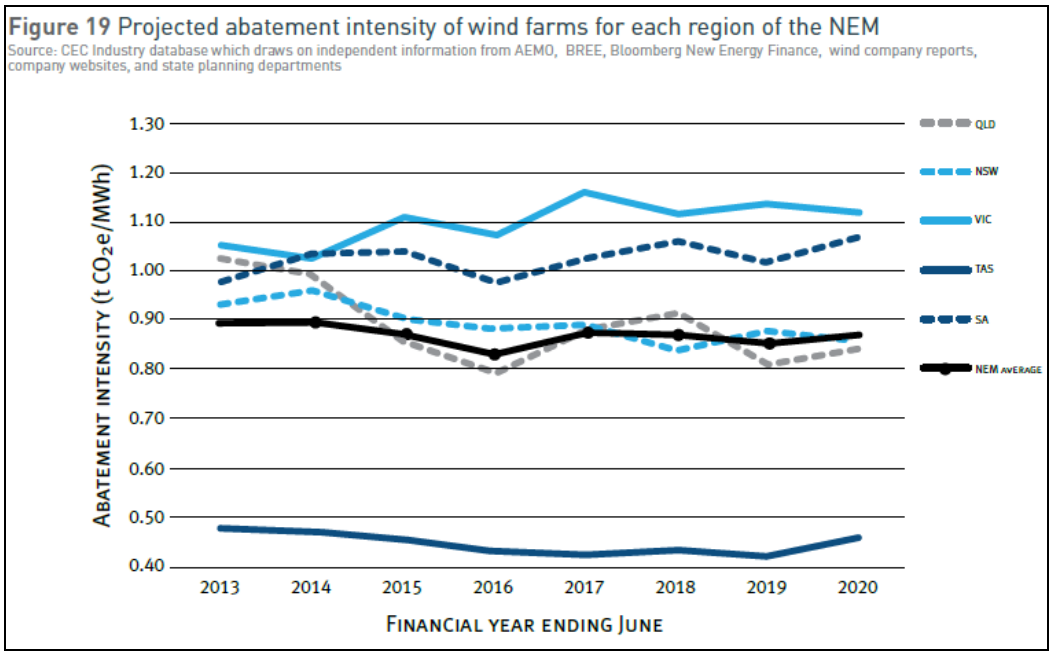


Figure 19: Abatement intensity of wind farms in the NEM (Clean Energy Council, 2012)

While from a global perspective the Australian target of 41,000 GWh/yr of renewable generation is small, a strong LRET scheme would appear to be the most effective policy to reduce Australia's carbon emissions. Australia's policies should be aligned with what other countries are doing to reduce carbon emissions, particularly our trading partners.

As mentioned in the Issues Paper, there are legislated or planned renewable energy or renewable electricity targets in over 85 countries, more than half of which are in developed countries. As mentioned in the Issues Paper, there are legislated or planned renewable energy targets in over 85 countries, more than half of which are in developing countries. A significant number of countries have higher targets than Australia, including:

- Canada has a renewable *electricity* target of 90% by 2020.
- The USA has an 80% renewable *electricity* target by 2035.
- The 27 member states of the European Union (EU) have a combined target of 20% of all *energy* use to come from renewables by 2020, which includes transport and heating fuels in addition to electricity.
- Each EU member country has its own renewable *energy* (not just electricity) target that includes all energy consumption. For example:
    - Norway: 67.5% by 2020;
    - Sweden: 49% by 2020;

  - Latvia: 40% by 2020;
  - Finland: 38% by 2020;
  - Austria: 34% by 2020;
  - Portugal: 31% by 2020;
  - Denmark: 30% by 2020 and 100% by 2050;
  - Estonia and Slovenia: 25% by 2020;
  - Romania: 24% by 2020;
  - France and Lithuania: 23% by 2020;
  - Spain and Croatia: 20% by 2020;
  - The remaining 13 EU countries (Germany, Greece, Italy, Bulgaria, Ireland, Poland, the UK, the Netherlands, Slovakia, Belgium, the Czech Republic, Cyprus, Hungary, Luxembourg and Malta) each have 2020 renewable *energy* targets of between 10 and 18%.
- Austria had a 78% renewable *electricity* target by 2010, Portugal 45%, Finland 31.5%, Spain 30%, Denmark 29%, and Greece a 20% renewable *electricity* target by 2010.
- In the EU, the energy (ie not just electricity) obtained from renewable sources is estimated to have contributed to 12.4% of the European Union's overall energy consumption in 2010, up from 11.7% in 2009.
- The UK is considering introducing a 30% renewable electricity target by 2020 and aim to reduce the carbon intensity of electricity by 90% by 2030 (from 500 gCO2/kWh today to 50 gCO2/kWh in 2030).
- Morocco has a 40% renewable energy target by 2020 (covering all energy consumption), including 2 GW of wind and 2 GW of solar electricity plants.
- India has a target of 14.5 GW of additional renewable electricity by 2015 and 20 GWh of solar electricity by 2022;
- Saudi Arabia has a target of 41 GW of solar by 2032.
- Mexico: 40% by 2014.
- New Zealand: 90% by 2025.
- China: 17% of China's electricity and 8% of China’s energy came from renewable sources in 2007. This is projected to increase to 21% renewable electricity and 15% renewable energy by 2020.
- Japan is shifting its focus from nuclear to renewable energy
- The G8 (France, Germany, Italy, Japan, the United Kingdom, the United States, Canada and Russia), comprising 51% of 2011 global nominal GDP and 42.5% of global GDP, agreed in July 2008 a target to cut global emissions by 50% in 2050.

Equity

The *Garnaut Climate Change Review*, 2008, found that the costs of action on climate change in the 21st century are less than the costs of inaction. The review found that GNP is higher with emissions mitigation than without by the end of the century, and that the loss of present value of median climate change GNP through the century will be outweighed by other benefits: “On a balance of probabilities, the failure of our generation on climate change mitigation would lead to consequences that would haunt humanity until the end of time.”

Public support for wind energy projects remains high, despite a vocal campaign by a very small number of anti-wind campaigners. Various polls conducted by RATCH-Australia, other developers and by the Clean Energy Council continue to indicate that nearly 80% of people support wind farms, including those living in areas that already have wind projects in their area.

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

SUMMARY

- **The target trajectory has driven development of renewable energy (potential of >41,000GWh) that is more than sufficient to meet the 2020 target.**
- **The LRET has resulted in a significant growth in the renewable energy industry, particularly skills relating to development, construction and operations.**

To date, there has been a lag in the move from renewable energy development to operations due to:

- The presence of a huge number of excess LGC certificates created by the solar multiplier reducing the need for retailers to purchase certificates from new renewable energy projects;
- Continuing uncertainty about the future of the RET leading to a lack of investment by developers and an unwillingness by offtakers and liable parties to sign offtake agreements.

However there is more than sufficient development to meet the 2020 target. There are currently about 7 GW of wind energy with development approval and a further 20 GW of wind energy under development.

- If the 7 GW of wind energy with development approval was constructed, then this would imply generation of 21,462 GWh/yr[1].
- According to *Energy in Australia 2012* (Australian Government Bureau of Resources and Energy Economics), and as per page 9 of the Issues Paper, renewables accounted for 19,711 GWh of electricity generation in 2009-10.
- These two sources of renewable energy are sufficient to meet the 41,000 GWh/yr 2020 LRET target.
- In addition to this, there is another 6 GW of wind energy currently in the approvals process that is likely to be approved in the next few years, giving the potential for a further 18,500 MWh/yr by 2020.

However, achievement of the LRET target depends upon investment certainty for developers and offtakers to allow construction of renewables from now until 2020.

Has the LRET driven investment in skills that will assist Australia in the future?

The LRET has driven investment in skills that will assist Australia in future development of renewables. The renewables industry is growing and it is now a significant provider of employment in areas of development, construction and operation and maintenance.

[1] Assuming an average capacity factor of 35%

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

SUMMARY

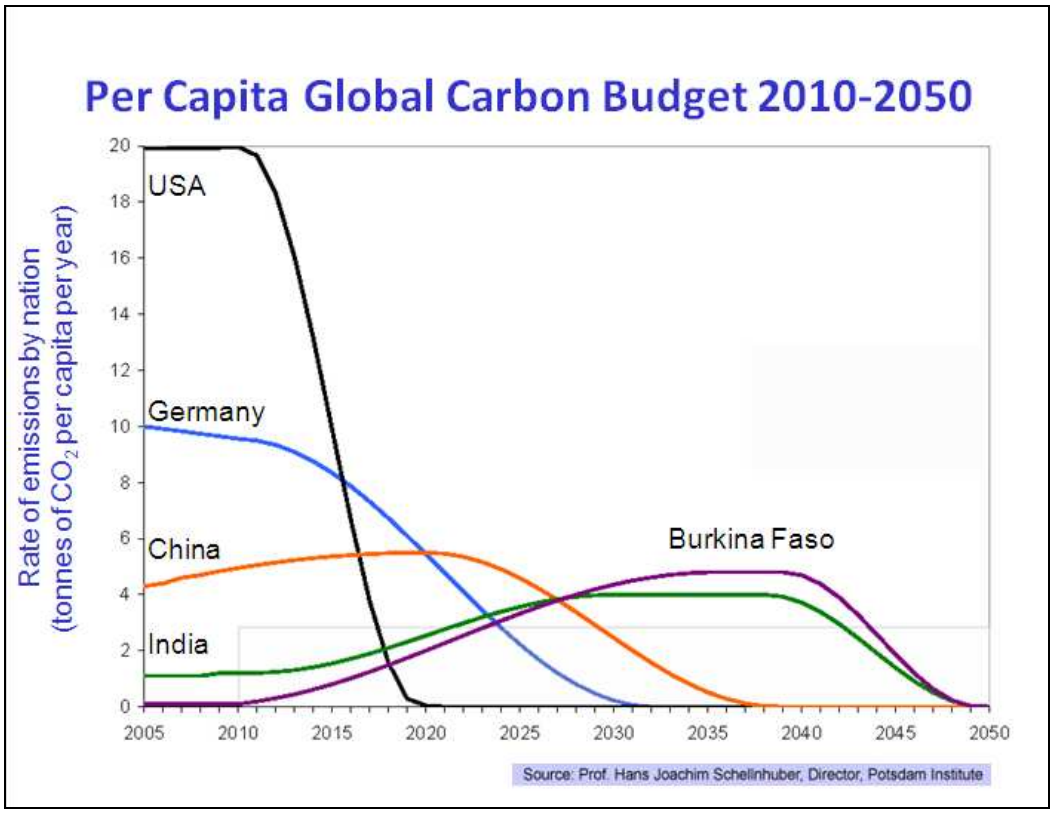
- **To avoid additional costs associated with the impacts of climate change, there is an argument for a prudently staged increase in the LRET target after 2020. Australia would not be moving "ahead of the crowd" in doing so.**
- **This would allow for continued development of renewables.**
- **The termination date for the LRET of 2030 is starting to create issues with financing as many offtakers will only contract until 2030.**

In the context of climate policies and the cost of climate change impacts, there is a case for the target to be increased after 2020. A 20% target is low based on what many other countries are seeking to achieve, as outlined in our response to question 1.

The major conclusion of the Australian Government's Climate Commission Report, *The Critical Decade*, published in May 2011, was that a temperature increase of 2 degrees is the upper limit or "guard rail" for global warming, beyond which our climate will become dangerously unstable. To have even a 75% chance of staying below this threshold, global emissions from 2010 onwards must be limited to 1 trillion tonnes.

The graph below, sourced from the Potsdam Institute, shows the rate of emissions reductions required from selected countries in order to avoid exceeding the 2 degree guardrail. It allows an equitable rate of global reductions and takes into account the current, per-capita emissions levels of different countries. The work shows that if every country had the same carbon budget per person from 2010, countries like the USA would have to reduce more quickly due to their high current emissions.

Any increase in the renewable energy target after 2020 should be subject to a cost-benefit analysis to ensure that this is the most cost-effective way to deliver emissions reductions.



4. Should the target be a fixed gigawatt hour target, for the reasons outlined by the Tambling Review, with the percentage being an outcome?

SUMMARY

- **A fixed gigawatt hour target allows for investment certainty.**
- **Changing to a target that changes with forecasts will reduce certainty and result in inefficiencies that are likely to result in higher costs.**

As outlined in the Tambling Review, the target should be a fixed gigawatt hour target. A fixed GWh target is established practice throughout the history of the RET and as discussed in the Issues Paper the 2003 Tambling review concluded that:

"The Review Panel [is] convinced … that any future target should continue to be expressed in terms of a fixed GWh level. By their nature, projections of electricity demand contain a degree of uncertainty. The changes in projected electricity demand that have occurred since the MRET was announced demonstrate that a percentage-based target would require the corresponding generation level to be regularly revised. This would adversely impact on market certainty. Risk is a key factor in investment decision making, so that any changes to MRET that would reduce market certainty would also reduce the prospect of attracting the required financial backing for projects. The Review Panel considers that a fixed target is more compatible with market certainty, with MRET's industry development objective, which

defines a level of renewable energy generation rather than a percentage of a fluctuating electricity market over which the industry has no control."

RATCH-Australia supports this statement. Recent discussion about this RET review and statements from parties advocating a change to a percentage target have created significant market uncertainty which has led to both increased risk and difficulty in obtaining financial backing for all power projects (renewable and non-renewable), both internally and from external debt providers.

There is considerable increase in uncertainty should the target be moved from a fixed GWh amount to a percentage that is regularly reviewed.

In addition, the Commonwealth commitment is to "*at least* 20% of Australia's electricity from renewable sources by 2020". This is consistent with being a fixed gigawatt hour target, with the potential to increase the target if it is reasonably expected that the fixed target will fall short of the 20%.

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

SUMMARY

- **The LRET target should not be revised to reflect changes in energy forecasts.**
- **Changing to a target that changes with forecasts (both higher and lower) will reduce certainty and result in inefficiencies that are likely to result in higher costs.**
- **Uncertainty may also penalise existing renewable generation if the value of the output (particularly LGCs) fall as a result of reductions in LGC requirements.**

The target should not be revised to reflect changes in energy forecasts.

Energy forecasts fluctuate from year to year, and a changing target based on a moving energy forecast would create a significant amount of uncertainty for investors and purchasers of all electricity and LGCs. Uncertainty inevitably leads to higher costs and less efficiency – for example, developers of both renewable and fossil-fuelled plant will face higher funding costs from banks as the policy position will be less certain over the life of the generation asset.

Please refer to our response to question 1 (Are the existing 41,000 GWh LRET 2020 target and the interim annual targets appropriate) for further comments on the implications of revising the target in terms of economic efficiency, environmental effectiveness and equity.

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

SUMMARY

- **The LRET target should be increased to allow for CEFC funded activities.**
- **The CEFC's size has a disruptive potential with regard to the volume of LGCs and the cost to generate these LGCs.**

The LRET target should be increased for any Clean Energy Finance Corporation-funded activities so that any LGCs generated by CEFC funded projects are additional to the existing 41,000 GWh target.

CEFC investment would affect the mix of renewable energy generation by creating a new source of LGCs that are, in effect, Government-subsidised. These projects would be supplying LGCs in competition with private investment that only has access to private funding and would therefore be creating an uneven playing ground.

The size of the CEFC is such that it could have a potentially distorting effect on the outcome if it were allowed to be included in the existing LRET target, and that would increase uncertainty for private investment.

The purpose of the CEFC should be to fund projects using emerging renewable technologies, such as solar thermal, that are not yet cost-competitive with established renewables. If the LRET was not increased for CEFC projects then the private sector would again face uncertainty as to the supply of LGCs to 2020. This would have the effect of reducing investment in the most cost-competitive forms of renewable energy (such as wind and solar PV) which are likely to be ineligible for CEFC funds. This would seem at odds with the efficient operation of the electricity market, whose purpose should be to provide reliable electricity at the lowest cost to consumers, and certainly inequitable for developers of wind farms and solar PV projects who would be disadvantaged by the CEFC "picking winners".

The Issues Paper states that increasing the target for CEFC funded projects would require "a prediction of how many certificates CEFC funded projects are likely to produce out to 2030, which is likely to be difficult in the short-medium term". Considering that financing for every electricity project is dependent on having an accurate estimate of the amount of generation expected, one would think that the number of certificates likely to be generated by any CEFC-funded project over the period from its commissioning to 2030 would be possible to estimate relatively accurately, with the target increased as required.

7. Is the calculation of individual liability using the Renewable Power Percentage the most appropriate methodology?

Yes.

8. Is it appropriate to set the Renewable Power Percentage by 31 March of the compliance year?

No comment.

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

SUMMARY

- **The shortfall charge should be indexed to CPI, to prevent it losing its incentive over time.**

The shortfall charge should be changed so as to be indexed to CPI. This was demonstrated by the original RET scheme in 2000-2009, for which the shortfall charge was rendered worthless as a penalty by the end of the scheme due to inflation.

In order for the RET to be effective, the shortfall charge should be set such that the penalty is a sufficient incentive for parties to purchase LGCs rather than suffer the penalty.

10. Are there other issues relating to the liability or surrender framework the Authority should consider?

No

11. What are the costs and benefits of the current exemption arrangements? Are they appropriate?

The RET includes partial exemptions for trade-exposed entities and is important for Australia to retain its competitiveness in cases where other countries do not have similar generation policies in place. However, at least 85 countries have some form of renewable energy target, and therefore such exemptions may not be relevant for those countries. When reviewing exemptions, the renewable policies of the relevant trading partner countries should be taken into account.

Self-generators, who are not liable under the RET, presumably include a large number of mining projects in Western Australia who have their own off-grid electricity generation. It is not equitable that those companies be exempt from a national scheme. Again, the broader community and other power users are unfairly exposed to increased liability due to these exemptions.

12. The self-generator exemption pre-dates the emissions intensive, trade exposed partial exemptions – are both required? If so, why?

Exemptions should only be granted on the basis of retaining a level playing field with other countries. As such, provided that an appropriate trade exposed exemption is in place, the self-generator exemption is unnecessary.

13. What, if any, changes to the current exemption arrangements should be made? What would be the impact of those changes on directly affected businesses and the broader community?

Any trade-exposed partial exemptions should be granted and reviewed on the basis of maintaining competitiveness with the applicable country trading partner.

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

The list approach to "eligible renewable sources" is appropriate, and as stated in the Issues Paper this list is consistent with the definition set out in the Intergovernmental Panel on Climate Change 2011 report, *Renewable Energy Sources and Climate Change Mitigation*.

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

RATCH-Australia does not believe that any additional renewable sources should be eligible at this time.

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

It would seem inappropriate that waste coal mine gas be included in the RET because the RET is designed to promote renewable energy. Waste mine gas is not renewable.

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

It is recommended that there be no changes to the list of eligible renewable sources.

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

RATCH-Australia believes that the LRET accreditation and registration procedures are appropriate and working efficiently.

Small-scale Renewable Energy Scheme

As RATCH-Australia is a developer, owner and operator of large-scale electricity projects, we do not intend to comment on the SRES except to the extent that it affects the LRET scheme.

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

The separate scheme for small-scale technologies should allow the large-scale LRET to function as intended. Otherwise, as demonstrated in 2010-2011, specific incentives for small-scale generation such as the solar multiplier reduced the incentive for large-scale projects under the RET and reduced the effectiveness of the RET itself due to the creation of large numbers of certificates that were not associated with generation.

20. Should there continue to be a separate scheme for small-scale technologies?

Yes.

21. Is the uncapped nature of the SRES appropriate?

No comment.

22. What do you see as being the costs and benefits of an uncapped scheme in terms of economic efficiency, environmental effectiveness and equity?

No comment.

23. Is the SRES driving investment in small scale renewable technologies? Is it driving investment in skills?

No comment.

24. What is the appropriate process for considering and admitting new technologies to the SRES?

No comment.

25. Should any additional small-scale technologies be eligible to generate small-scale technology certificates?

No comment.

26. Is it appropriate to include displacement technologies in the SRES?

No comment.

27. Should additional eligible technologies under the SRES be limited to generation technologies?

No comment.

28. Is deeming an appropriate way of providing certificates to SRES participants?

No comment.

29. Are the deeming calculations for different small-scale technology systems reasonable?

No comment.

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

The use of the solar multiplier was a disaster for large-scale renewable generation projects and developers, who could not compete against the 'phantom' certificates created from the solar multiplier and which unfairly skewed the market towards more costly small-scale solar PV compared to cheaper large-scale wind or solar power. Similarly, it was environmentally ineffective considering that the effectiveness of the scheme was reduced in proportion to the solar multiplier (due to the 5x solar multiplier, all certificates from all technologies were then effectively only worth one fifth of their generation value). The large-scale renewable market is only now beginning to recover as the oversupply of certificates is reducing and liable entities are beginning to consider their liability under the RET for the last few years prior to 2020.

The effect has been that despite the large numbers of certificates that have been created, there is not a corresponding amount of electricity being generated. This has rendered the RET ineffective for a number of years as a means of encouraging development of new renewable power projects.

If multipliers are to be used in future, it is fundamental that they do not provide direct competition with technologies that are not eligible for such multipliers and that they do not water down the effectiveness of the RET.

31. Is the Small-scale Technology Certificate Clearing House an effective and efficient mechanism to support the operation of the SRES?

No comment.

32. Should changes be made to the Clearing House arrangements? If so, what would be the costs and benefits of any suggested alternative approaches?

No comment.

33. Is $40 an appropriate cap for small-scale certificates given the recent fall in cost of some small-scale technologies, particularly solar PV?

No comment.

34. Are the SRES administration arrangements appropriate and working efficiently?

No comment.

Diversity of renewable energy access

Should the RET design be changed to promote greater diversity, or do you think that, to the extent that there are barriers to the uptake of other types of renewable energy, these are more cost-effectively addressed through other means?

The RET should encourage the most cost-effective forms of renewable energy without picking winners in terms of technology or scale. To the extent that there are barriers to the uptake of other types of renewable energy, they should be addressed outside the RET scheme, via ARENA or CEFC, for example.

What would be the costs and benefits of driving more diversity through changes to the RET design?

The most cost-effective form of renewable energy generation during the life of the RET to date has been large-scale wind. It is expected that at some time between now and 2020, wind may be joined by solar PV and potentially solar thermal as cost-effective technologies, both around the world and in Australia.

In order to achieve a large-scale shift in generation towards renewables in a short timeframe with the lowest impact on consumers, the RET should support lowest-cost technologies that are currently in commercial operation. There does not seem to be any benefit in driving more technology diversity which would imply supporting developing technologies that are not yet demonstrated commercially. In addition, utilising the RET scheme to meet the aims of the CEFC funding previously discussed would again destabilise the RET scheme and lead to an inefficient economic outcome.

Review frequency

What is the appropriate frequency for reviews of the RET?

A two-year review frequency would seem reasonable given the increasing urgency with which countries around the world are taking steps to tackle climate change, but the review should be limited to increasing the target and not have the investment uncertainty around possible decreases in the target. The 2-year review period has adversely affected the entire electricity industry. It has led to uncertainty, increasing risk and project costs, and delayed investment decisions, both in terms of renewables and fossil fuelled generation.

What should future reviews focus on?

Future reviews of the RET scheme should focus on:

- The effectiveness of the scheme and whether it is on track to meet its purpose and its target;
- Whether the target should be increased;
- Whether the penalty (shortfall charge) should be increased;
- Whether there are other barriers affecting the efficient, effective and equitable deployment of renewable electricity generation projects, such as particular planning laws

for wind farms in various states when compared to other forms of generation, and how such barriers can be addressed;

Further Comments

In addition to the responses to the questions posed in the Issues Paper, RATCH Australia wishes to add the following comments in relation to the RET review:

Impact of wind farms
Section 4.6 of the Issues Paper notes that the National Health and Medical Research Council is investigating the impact of wind farms on human health by commissioning a systematic review of the scientific literature to examine the possible impacts of wind farms on human health, including audible and inaudible noise. RATCH Australia would like to point out that the National Health and Medical Research Council concluded in their 2009 study that "there was no published scientific evidence to positively link wind turbines with adverse health effects." (*Wind Farms and Human Health*, Australian Government National Health and Medical Research Council, 3 Sep 2012). This assessment matches assessments by other similar agencies throughout the world.

The scientifically accepted research on wind turbine noise, both audible and inaudible (such as low frequency noise) continues to show there is no established link to health issues. It is also important to note that there is a significant level of misinformation being spread about the impact of wind farms by a handful of anti-wind farm lobby groups.

Impact on market prices
As per Section 7.2 of the Issues Paper, experience with the merit order effect in Germany and in South Australia have demonstrated that increasing levels of renewables (predominantly wind and solar) in the grid lead to lower electricity prices.

Electricity network security
As noted in Section 7.3 of the Issues Paper, AEMO requires all significant new generation to participate in central dispatch processes to control output and hence ensure network security. Network security seems to be an issue that is raised by opponents of renewables as a reason that renewables should not be supported, however in practice, areas around the world that have increasing levels of renewables in the grid (including South Australia) have achieved this without an adverse impact on network security. It has been demonstrated that the output of intermittent generation such as wind and solar can be reliably predicted in advance, and as more is constructed over a larger area the spread of locations means that any local intermittency is significantly reduced.