

Trevor Gleeson  
Toowong Q 4066

3 May, 2003

MRET Review Secretariat  
GPO Box 621  
Canberra ACT 2601

Dear MRET Review Panel,

**Re: Submission to the Review of the Mandatory Energy Review Target**

Thankyou for the opportunity to provide my input to the review process. I have been actively following the development of Australia's energy and greenhouse policy for over ten years and strongly support the promotion of renewable energy, as it is in the long-term interests of Australia. This is a personal submission, but I base my comments on the experience gained though my employment in the energy industry and involvement in the Australian and New Zealand Solar Energy Society. I am currently a Business Development Project Manager for Stanwell Corporation and previously an Energy and Greenhouse Officer for Brisbane City Council. This experience has given me a good understanding of the range of greenhouse abatement options available and the overall potential of renewable energy.

**Overview**

I believe the Mandatory Renewable Energy Target (MRET) has been very successful to date and is the most farsighted policy instrument yet implemented by Australia to reduce long-term greenhouse emissions and begin making a transition to a sustainable energy future. Making that transition will take time, perhaps all of the next century, but it is essential to set sustained long term policy direction and targets to enable industry time to respond. While the target is currently relatively small at a nominal 2%, it has at least provided sufficient certainty to a fledgling renewable industry to stimulate very significant investment.

The world wide potential for the renewable energy industry is enormous, but it will take the full inclusion of the wider environmental impact of our current fossil fuel based energy supplies for that potential to be realised (eg. carbon emissions and other pollutants). Energy prices will rise in a carbon constrained world, while the cost of renewables will continue to fall for some time, as technologies mature. Somewhere in the middle is an environmentally, economically and socially sustainable energy future. Gradual increases in energy prices will not be the end to the Australian economy and particularly our energy intensive resource based industries. Many other countries already have much higher energy prices than Australia, but maintain sustainable economies. Long term planning and policy setting is the key to allowing industry time to adapt. Industry has a very impressive record of responding to change when the goal posts are clearly set and sufficiently distant to allow an effective response.

The Parer Review recently called for the abolition of MRET and other State Based schemes and replacement with a single scheme such as emissions trading. While I strongly support the establishment of an emissions trading or similar scheme to achieve least cost carbon abatement, the effective industry stimulation function of MRET must not be forgotten as this

serves to position Australia for the longer term. I believe the two schemes are complementary and can effectively co-exist for some time. There are a range of greenhouse abatement options such as energy efficiency and methane management, that are likely to offer lower cost abatement than renewables in the short term. These should be exploited as soon as possible, but ultimately new supply options will also be required. A diversified range of renewable technologies is likely to hold the key to a long-term sustainable energy future. Scrapping MRET would be very short sighted, destroying the most positive long-term signal on sustainable energy policy yet established by the Government; and a return to ad hoc policy development. Indeed, the recent UK Renewable Energy Credits scheme has been modelled on Australia's successful MRET.

The European and world wind industries have demonstrated what the renewable industry is capable of with an average annual growth of more than 25% over the last five years. In this time costs have fallen significantly.

A target of 5% increase in renewables by 2010 would be readily achievable by industry. Continued growth targets of 10% by 2015 and 20% by 2020, in line with other greenhouse proactive countries, would provide investment certainty to deliver a truly sustainable and internationally competitive renewable energy industry for Australia. Renewable resources are not a limiting factor in Australia.

An increase in current \$40/MWh penalty level maybe required to achieve these higher targets, but the net cost to society is still relatively small with many compensating environmental and new industry benefits. I believe most consumers are not opposed to paying extra for increasing renewable energy supplies, provided they know the money is actually being used for new investment. MRET provides a very transparent mechanism for proving that the money is being spent on new renewable energy projects.

The remainder of this submission provides comments under each item in the Terms of Reference for the review

**Terms of Reference for the Review of the *Renewable Energy (Electricity) Act 2000***

*The Renewable Energy (Electricity) Act 2000 establishes the Mandatory Renewable Energy Target which requires Australian electricity retailers and other large buyers of electricity to collectively source an additional 9 500 gigawatt hours of electricity per annum from renewable sources by 2010. The Panel is to review the operation of Renewable Energy (Electricity) Act 2000, to determine:*

- a. *the extent to which the Act has:*
  - i. *contributed to reducing greenhouse gas emissions;*

The 2001 and 2002 MRET targets have been easily met and it looks highly likely full 9500 GWh target will be easily met. Hence MRET is providing a valuable contribution to reducing greenhouse emissions (2% reduction by 2010) . The value of RECs to date has been in the range \$25 to \$38. Other abatement options such as energy efficiency and methane management may provide lower cost emission reduction in the short term, but MRET is positioning Australia for the longer term.

- ii. *encouraged additional generation of electricity from renewable energy sources;*

MRET has been extremely successful. Over 170 new or expanded renewable energy generators worth around \$700 million have already been commissioned as a result of MRET and there is already more than enough projects on the drawing board to meet the 9500 GWh target. Wind has been the major success story. The wind industry is growing rapidly with manufacturing/assembly facilities being set up in Australia, thus moving towards a viable long-term industry.

*b. the extent to which the policy objectives of this Act have been achieved and the need for any alternative approach;*

Specific policy objectives included in the wording of the Act include:

- *“to accelerate the uptake of renewable energy in grid-based applications, so as to reduce greenhouse gas emissions;*
- *as part of the broader strategic package to stimulate renewables, provide an ongoing base for the development of commercially competitive renewable energy; and*
- *to contribute to the development of internationally competitive industries which could participate effectively in the burgeoning Asian energy market.”*

I believe MRET is well on the road to achieving these objectives, however, the target only increases until 2010 with a end date of 2010, which is a relatively short timeframe to establish a renewable energy industry that can compete with the currently subsidised (ie non-taxed) fossil fuels. I believe MRET is an effective policy instrument in conjunction with other supportive policies such as implementation of the Renewable Energy Action Agenda and emissions trading or similar. However, higher MRET targets extending beyond 2010 are likely to be needed to further stimulate the industry and fully achieve the above objectives.

*c. the mix of technologies that has resulted from the implementation of the provisions of this Act;*

A broad range of technologies have contributed to the target so far. Wind is more than expected, biomass (particularly sugar) less than expected with Solar Hot Water making a significant contribution. The large potential for sugar projects still remains and is still likely to be realised in the longer term. The diverse range of technologies is a positive for Australia's long-term energy security

Biomass projects have suffered significant regulatory uncertainty with regard to the interpretation of acceptable fuels under the Act. This needs urgent clarification. I would support broadening of the definitions to ensure all waste biomass material that would otherwise have been buried in a licensed landfill be made eligible for power generation under MRET. Care is needed however to protect our native forests.

d. *the level of penalties provided under this Act; and*

The level of the penalty seems adequate with the current target (given CPI indexing discussed below), but may need to be adjusted upward as the MRET target is increased.

While the REC price has approached \$40 at this early stage of the target (perhaps higher than expected as the low cost projects were expected to be developed first), there is still room to increase before the after tax cost of \$52/MWh is reached. Adding \$52/MWh to the current NEM energy price of typically \$35 makes \$87/MWh, which should be sufficient to make a large number of renewable projects commercially viable, particularly wind. Wind costs are coming down as installed capacity increases. Separate REC supply demand analysis by Redding and Magasanik seems to indicate the REC price is unlikely to reach the penalty limit with the current target, but it is early days and the penalty level is one thing that should be subject to ongoing review.

The target and penalty level need to be considered together. The target multiplied by the penalty represents the maximum cost to society of meeting the target. The aim is to equitably spread this across all electricity users. If the 9500 GWh target is achieved at a \$40/MWh premium, then the total annual cost is \$380 Million in 2010. Spread across all electricity consumers this represents a \$0.8/MWh (0.08c/kWh) price increase, which is less than a 0.1 % increase for most commercial and domestic consumers. This is insignificant and a very worthwhile investment in Australia's future.

The significant potential for an increase in the MRET target to 5 or 10% is discussed in item h below. An increase in penalty level maybe required to achieve these higher targets, but the net cost to society is still relatively small with many compensating environmental and new industry benefits.

Item J (ii) below discusses the social benefits and significant willingness for consumers to pay more for renewable energy.

e. *the need for indexation of the renewable energy shortfall charge to the Consumer Price Index to maintain the real value of the charge and the associated penalty charge;*

This is absolutely essential and in line with many commercial transactions. If a phase out of the penalty level is required in later years, it should be done in a more logical and transparent way.

f. *other environmental impacts that have resulted from the implementation of the provisions of this Act, including the extent to which non-plantation forestry waste has been utilised;*

I am not aware of any significant adverse environmental impacts that have arisen from new renewable energy projects. Renewable energy technologies are not without some environmental impact, but these are generally less than most industries.

I suspect very little, if any “non-plantation” forestry waste has contributed to the target to date. Forestry biomass projects in general have been impacted by regulatory fuzziness. I believe significant potential exists in “non-plantation” forestry biomass that can be exploited without unduly endangering our native forests. Clarification or qualified expansion of the range of acceptable forestry fuels would be worthwhile.

I would support broadening of the general biomass definitions to ensure all waste biomass material that would otherwise have been buried in a licensed landfill be made eligible for power generation under MRET.

*g. the possible introduction of a portfolio approach, a cap on the contribution of any one source and measures to recognise the relative greenhouse intensities of various technologies;*

I don't see a need for a portfolio approach at this time.

All renewable technologies have close to zero greenhouse emissions when compared to most fossil fuel generation. Even the best combined cycle gas turbine has emissions ten times (400 kg/MWh) those of a typical biomass project, which often have the highest emissions of renewable technologies (36 kg/MWh). Significant transport or auxiliary power energy use in a biomass projects is netted out when calculating the allowable RECs.

Hence, I don't see any need to differentiate renewable projects on the basis of greenhouse emission intensity.

The cost of renewable technologies does vary greatly and hence MRET is only likely to support the lowest cost renewable technologies. For example wide scale use of PV will not result from the current MRET target as the cost is still too high and by the time it reduces the scheme may have ended. A portfolio approach might benefit PV, but at increased cost and the expense of another technology in the short term. I believe providing longer term targets and regulatory certainty should be sufficient incentive for higher priced renewables with significant potential for cost reductions to be funded by industry until they can effectively compete with other renewables. Hence, longer term overall targets are preferred over a portfolio approach.

*h. the level of the overall target and interim targets*

It appears the 9500 GWh target will be easily met by 2010. REC generation in the first two years of the target has exceeded the interim targets, with additional RECs possibly not even registered. Hence there is a good case to increase the interim targets.

Higher electricity growth than predicted when setting the fixed 9500 GWh target has eroded the nominal “2% increase target”. As an absolute minimum, the fixed target should be increased to a true 2% using the latest energy growth figures.

There is strong grounds to increase the 2010 target further and to introduce additional targets beyond 2010 to keep the renewable industry growing.

Many other countries are adopting much higher short and long term renewable energy targets than Australia. The British Energy White Paper calls for greenhouse reductions of

60% by 2050. In Australia, the "Beyond Kyoto" report prepared for PMSEIC (Prime Ministers Science and Environment Innovation Committee), which was pro geo-sequestration, suggested a 50% "reduction in greenhouse emissions by 2100" was a reasonable target.

- The UK "Renewables Obligation" will increase renewables from 3% in 2003 to 10.6 % by 2010 with further intentions to extend the target to 20% by 2020.
- The European Union approved a binding directive to increase the amount of electricity generated from renewable sources from 14% to 22% by 2010.
- Denmark has already exceeded its previous renewable energy target of 20% by 2003. Estimates indicate 29% by 2004-5 and 40 to 50% by 2030.
- California has passed legislation that requires the state to double its renewable electricity supply from the present 10% to 20% by 2017.
- France aims to increase its renewable energy sources from the current 15 % to 21% of total demand by 2010.
- The Indian government has set a target of approximately 10,000 MW of renewable energy by 2012.

A 10% target by 2010 is being sought by Australia the Business Council for Sustainable Energy, AUSWEA and a coalition of many other organisations.

A 5% target by 2010 has been set Australian Labour Party Policy.

Are these targets achievable? Australia is well endowed with renewable resources, which is unlikely to be a limiting factor.

Recent studies by Redding and Magasanik certainly indicate the 2% target will be easily achieved. Other studies (Origin Energy, Next Energy and NSW Sustainable Energy Jobs Report) indicate 5 or 10% are well within bounds at very reasonable cost (refer earlier comments on consumers willingness to pay).

I believe 5% would be readily achievable by 2010. There is already 2800 MW of wind projects on the drawing board in Australia and the potential has been barely touched. AUSWEA have set a target of 5000 MW of wind by 2010, which would deliver around half of a 10% target and hence around a 5% target on its own. This is before the significant potential of other technologies.

Industry growth rates are the limiting factor rather than resource availability. Industry has the potential to respond, but needs long term certainty and targets to prepare. If growth rates are to be maintained targets beyond 2010 are required. Rather than change the existing target to much I support the following:

- 5% by 2010
- 10% by 2015
- 20 % by 2020

This would bring Australia in line with other greenhouse progressive countries.

*i. the appropriateness of the operating environment including the:*

*i. level of participation in and transparency of the Mandatory Renewable Energy Target measure;*

No liable party has chosen to pay the Penalty Charge instead of buying RECs and hence the level of participation is high. Significant investment into new Renewable Energy Generation is occurring. The process for registering Renewable Generators and RECs and the acquittal of liabilities appears to be highly transparent giving participants and electricity consumers confidence that the measure is indeed directly generating additional renewable energy.

*ii. scheduled end-date of 2020;*

20 years is a typical economic life of a power generation project. Equipment is usually designed to last at least 20 years and trying to recover costs over a shorter period, increases the unit cost unnecessarily.

The end date needs to be extended to allow at least 20 years to recover any investment ie 2010 plus 20 takes end date to 2030. If higher targets are set for 2015 and 2020 then the end date must be extended out 20 years beyond.

*iii. baselines for pre-existing generators;*

Setting baselines in an equitable way is always going to be difficult. The windfall “above baseline” benefit of old hydro maybe larger than expected ( the Business Council for Sustainable Energy has analysis to support this), and while this effectively erodes the 9500 GWh target, its effect is diluted if the target is increased. The windfall benefit and doesn’t greatly detract from objectives or success of MRET as a policy instrument, but provides a strong argument to increase the target to compensate

*iv. need for future reviews;*

It is generally good to review any scheme, but the scope of future reviews needs to be limited to provide investment certainty for generators. Existing investments need protection. The current review has caused developers to put projects on hold.

*j. the appropriateness of policy settings including the:*

*i. extent to which this Act has provided an ongoing basis for commercially competitive renewable energy;*

MRET is providing a sound basis for the establishment of an ongoing commercially competitive renewable energy industry. Significant investment is already flowing. Wind manufacturing/component assembly plants are already being set up in Australia. Increased targets are likely to keep the industry growing beyond 2010, but by 2020 (maybe before), it is likely that renewable generation cost will have reduced in real terms and some form of carbon constraint will have been introduced to replace the MRET penalty, which will make renewables competitive with all other forms of generation ie coal, gas etc.

*ii. relevant economic and social impacts that have resulted from the implementation of the provisions of this Act;*

As already discussed MRET increases electricity costs to consumers, but overall increase is relatively small and must be balanced by other benefits such as more jobs, energy security, export potential and diversified investment in regional Australia. Recent studies show even an increased target has a relatively small impact on the overall energy bill to consumers. Consumers are not generally opposed to paying extra for increasing renewable energy supplies, provided they now the money is actually being used for new investment. MRET provides a very transparent mechanism for proving that the money is being spent on new renewable energy projects. Market surveys show 50% or more of consumers support renewable energy and would be prepared to pay more for renewable energy, but less than 1% are proactive enough to subscribe to “Green Power Schemes” on their own, even though the cost is not a limiting factor to them. Turning this around to make renewable energy the norm, say via a 10% MRET target, is unlikely to meet with any significant consumer opposition with most consumers not even noticing it on their electricity bill.

*iii. inclusion of renewable energy sources and technologies not specified in the Act or Regulations;*

Clarification and a slight broadening of acceptable biomass fuels has already been discussed.

*iv. interaction with relevant Commonwealth, State and Territory energy, environment and industry policies.*

MRET is complementary to NSW benchmarks, and Qld 13 % gas target or a national emissions trading scheme. Requirements under MRET should be made additional to other schemes.

MRET particularly focuses on developing a renewable energy industry which has many additional benefits to greenhouse abatement, as already discussed (eg. Jobs, regional development, export potential, long- term energy security)