



The Expanded 20 per cent Renewable Energy Target

Submission on the COAG Working Group Consultation Paper

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Executive Summary

During the 2007 Federal election campaign, the current Government announced that it would move to introduce a 20 per cent Renewable Energy Target (RET) if elected. This target would increase renewable energy from 9,500 GWhpa in 2010 under the present 2 per cent Mandatory Renewable Energy Target (MRET) to 60,000 GWhpa by 2020.¹ This involves a shortfall over renewable energy expected to be installed by 2010 of around 38,000 GWh. This is a massive increase over a 10 year period.

The EUAA supports the use of renewable energy where it does not become a costly impost on energy users, is an efficient means of carbon reduction and makes a worthwhile contribution to our electricity supply. Unfortunately, we have serious concerns about the 20 per cent RET on all these ground (as outlined in this submission).

Our main issues and concerns are summarized as follows:

- There has been limited and narrowly based consultation on the 20 per cent Renewable Energy Target, which contrasts to the Government's approach to the Emissions Trading Scheme and policy development more broadly. The RET has 'slipped under the radar' and greater attention needs to focus on its impacts. The Government is urged to expand its consultation process to include the costs and benefits of the scheme, modeling of its economic costs and all elements of its design. Energy users, who will bear the costs of the scheme in higher electricity prices need to be consulted on these important matters. The 20 per cent RET is a costly and inefficient means of reducing carbon, compared to a direct carbon price, the costs of which will be borne by energy users. If renewable energy provides the least cost solution to carbon pollution reduction, it will be able to compete under a carbon price mechanism.
- We estimate that the 20 per cent RET could cost electricity users an additional \$2.2 billion per annum in electricity costs when it reaches its peak and that this will add between \$8-10/MWh to the cost of electricity, or about 10 per cent. Coming at a time when users are already facing energy cost pressures on multiple fronts, this additional impost is most unwelcome.
- The Government's policy does not appear to have recognised the enormity of the renewable energy task it is attempting to achieve. We estimate that the task involves four times the total money invested in generation in the entire National Electricity Market (NEM) over the past 10 years and involves 25 per cent more capacity. We have serious doubts about the ability of the target to be met and the market seems to agree with us as there is currently a surplus of some 7 million Renewable Energy Certificates (RECs) and it is valuing these at more than the current REC penalty rate. If the expanded target is not met, the penalty will become the default price in future with money possibly accruing to the

¹ There are also several State RETs, most notably the Victorian RET (implemented) and New South Wales RET (legislation is before Parliament). These provide for 3,274 and 7,250 GWhpa of renewable energy by 2016 and 2020 respectively.

Government rather than building new renewable energy. There is no clarity about what the Government would do with this revenue but we urge that it be recycled to energy users, who pay it in the first place.

- A sound and well supported case has not been made for a renewable energy target in addition to the Carbon Pollution Reduction Scheme (CPRS). In fact, it can be argued that the expanded RET will conflict with the CPRS by either resulting in no additional carbon pollution reduction but at higher cost or less carbon pollution reduction for a given cost. Either way is a worse outcome.
- Existing State RETs are more costly than an equivalent national RET and energy users welcome the Government's desire to remove these schemes. However, there is no firm indication yet as to when this will happen and this needs to be clarified as early as possible to remove uncertainty.
- The treatment of "trade exposed electricity intensive" industries is a vexed issue. The current MRET does not exempt such industries, however, some State schemes do. Exemptions also create issues about introducing competitive distortions, making quite arbitrary rules that damage some businesses and forcing more of the costs of the RET onto those businesses and households who are not exempt. The Government has proposed that free permits be issued to some "emission intensive trade exposed" industries in relation to its CPRS, but the beneficiaries are very limited and narrowly defined.
- If renewable energy delivers benefits to the Australian community besides emission reductions, the Government, not energy users, should pay for those benefits. This could be funded by the Government from the proceeds of the sale of permits to be allocated to the reduction of carbon emissions.

1 Introductory Comments

During the 2007 Federal election campaign, the current Government announced that it would move to introduce a 20 per cent Renewable Energy Target (RET) if elected. This target would increase renewable energy from 9,500 GWhpa in 2010 under the present 2 per cent Mandatory Renewable Energy Target (MRET) to 60,000 GWhpa by 2020.² This involves a shortfall over renewable energy expected to be installed by 2010 of around 38,000 GWh.³ This is a massive increase in a 10 year period.

The EUAA supports the use of renewable energy where it does not become a costly impost on energy users, is an efficient means of carbon reduction and makes a worthwhile contribution to our electricity supply. Unfortunately, we have serious concerns about the 20 per cent RET on all these ground (as outlined in this submission).

While the EUAA recognizes the validity of the detailed design issues described in the working paper, we would prefer to use this opportunity to communicate our deep concern about the Government's renewable energy policy and its implementation through the proposed expanded Mandatory Renewable Energy Target (MRET).

Our main concerns are summarized as follows:

- There has been limited and narrowly based consultation on the 20 per cent Renewable Energy Target, which contrasts to the Government's approach to the Emissions Trading Scheme and policy development more broadly.
- The 20 per cent RET will be a costly and inefficient means of reducing carbon, the costs of which will be borne by energy users.
- The Government's policy does not appear to have recognised the enormity of the renewable energy task it is attempting to achieve.
- A sound and well supported case has not been made for a renewable energy target in addition to the Carbon Pollution Reduction Scheme.
- If renewable energy delivers benefits to the Australian community besides emission reductions, the government, not energy users, should pay for those benefits.

The rest of this submission describes these concerns in greater detail. A concluding section sets out suggested actions that we think the Government should consider before finalising its MRET policy design in September.

² There are also several State RETs, most notably the Victorian RET (implemented) and New South Wales RET (legislation is before Parliament but has not yet been enacted). These provide for 3,274 and 7,250 GWhpa of renewable energy by 2016 and 2020 respectively.

³ The EUAA understands that around 15,000 GWhpa of renewable energy was in place in 1997, a further 9,500 GWhpa will be accounted for from the existing MRET and that a small additional amount could come from Green Power (perhaps 2,500 GWhpa)

2 There has been limited and narrow consultation on the 20 per cent RET

As mentioned above, the Government's 20 per cent RET was announced during the 2007 election campaign. We have seen very little documentation to justify the scheme and outline its costs and benefits. At the time, the then Opposition referred to a study for the Renewable Generators of Australia (REGA) that showed that the benefits of such a target would outweigh the costs and that such a target would not necessarily be costly for electricity consumers. However, this contrasts to other studies which show that renewable energy is costly for electricity consumers and is an inefficient means of reducing carbon (at least until the costs of renewable energy are reduced).

The REGA study also found that benefits were maximized at a target of 28,000 GWh (less than half that proposed in the expanded RET) and considered “low emission” not just renewable generation. It has also been subject to some criticisms, including that it made assumptions about the impact of scale economies and learning by doing in lowering the costs of renewable energy that were too optimistic, that it did not adequately account for all the indirect costs of adding large amounts of wind to the power system and that it failed to properly assess alternative policy options to a quota system.

The EUAA is also very skeptical about the study because it was commissioned by a group with clear interests in supporting renewable technology. Such studies should not be relied upon as a basis for sound public policy and make it even more important that the Government undertake its own economic modeling work prior to proceeding with its 20 per cent RET.

The ‘industry development’ objectives of RETs have also been criticized with analysis pointing out that:

- there is little empirical evidence to back up such claims;
- the scale needed to achieve industry development is not available in Australia (even with a large target) and that notions of exporting renewable energy technology are highly speculative; and
- that the investment and jobs created in renewable energy industries could well be more than offset by investment and job losses in other (more competitive) industries, and that the creation of regional employment and growth opportunities could be similarly offset.

The fact that the Government has not commissioned or released any analysis of the impacts of its 20 per cent RET is a significant shortcoming in the development of its policy. We therefore call upon the Government to do so and subject the results to critical analysis and public scrutiny with opportunity for submissions.

This approach is in stark contrast to the Government's extensive (and welcome) consultation on its Emissions Trading Scheme and its stated desire to have consultation on all major public policies. We strongly support this approach and urge the Government to apply it to the 20 per cent RET policy.

Although the Government has released a Consultation Paper on the 20 per cent RET, which we welcome, the paper is very narrow in its focus, dealing only with some of the design issues around a RET and outlining two approaches to implementation. We had expected a broadly based paper with consultation around the costs and benefits of the target (including modeling), different options to how it might be achieved, as well as design matters. For energy users, the former two issues are by far and away the most important.

In discussions with the Department of Climate Change, we have been told that the Government is commissioning modeling of the target but this seems to be more around the two approaches outlined in the Consultation Paper rather than costs and benefits of a 20 percent RET *per se*. It is also not clear to what extent there will be opportunity to comment on this modeling, with time frames for implementation indicating that there could be little if any opportunity for key affected parties, such as energy users, to assess and comment on the approach and results. We believe it is crucial that the Government respond positively to the issues raised in this paragraph.

The Consultation Paper provides only a limited coverage of the important issues and design elements of the 20 per cent RET. It should cover the full range of issues and design elements. From our discussions with the Department of Climate Change it remains unclear what further consultation will be undertaken but we are concerned that this could be quite limited given the Government's timetable for implementation of the scheme. We strongly urge that additional consultation be undertaken and that this include a further paper which outlines preferred positions on all important aspects of the expanded RET, its costs and benefits, and economic modeling of its impacts. This is justified given the significance of the expanded target and would follow more closely the process being used to develop the CPRS.

In summary, we are extremely disappointed at the lack of adequate consultation on implementation of the 20 per cent RET and the lack of any robust attempt to outline costs and benefits of such a policy, which could have major economic impacts and cost impositions on energy users. As outlined to the Department, we have therefore decided to commission our own strategic assessment and economic modeling of the impacts of the 20 per cent RET and will make the results public.

3 The costs of a 20 per cent RET

The EUAA is very concerned about the likely costs imposed of the 20 per cent RET on electricity consumers. As mentioned above, the absence of any official estimates of this are also of great concern to us. This means that a major policy is about to be implemented without the benefit of public information about its costs and benefits – especially the costs to electricity customers, who will have to bear the costs in terms of higher electricity charges over a ten year period, whilst also paying a price for carbon through the emissions trading scheme.

The EUAA estimates that the costs of the existing Federal MRET scheme is around an additional \$2/MWh for electricity, the Victorian RET around \$4/MWh and the New South Wales RET around \$6/MWh, which adds some 5, 10 and 20 per cent respectively to

prices. These are already significant imposts on electricity users at a time when they are facing rising energy costs pressures on multiple fronts – costs to produce electricity, costs of gas, a carbon price and network cost pressures.

We estimate that the 20 per cent RET could cost electricity users an additional \$2.2 billion per annum in electricity costs when it reaches its peak and that this will add between \$8-10/MWh to the cost of electricity, or about 10 per cent. As mentioned above, at a time when users are already facing energy cost pressures on multiple fronts, this additional impost is most unwelcome.

It should be noted that these are solely direct costs of the scheme and do not include other significant impacts such as the need to build thermal back up for intermittent and unreliable renewable energy such as wind, the costs of augmenting the network to cope with significant new renewable energy, the costs that significant new renewable energy will impose on power system management and the likelihood that as the target is increased less economic renewable energy will need to be built.

We strongly believe that the Government needs to undertake a robust assessment of all these costs and their impact on the competitiveness of Australian industries before proceeding with the 20 per cent RET. Such an assessment should be mandatory for new public policy in a modern world.

4 The enormity of the 20 per cent RET

The EUAA is very concerned that the Government may not have grasped the enormity of the challenge it has set with its 20% RET. The target means an additional 38,000 GWh of renewable energy production will required by 2020. This translates into additional renewable generation capacity of around 16,800 MW, assuming an average annual capacity factor for renewable generators of 30%⁴.

Assuming average capital costs of \$3,000/kW⁵, this will require an investment of \$50.6bn. This does not include the additional investment that would be needed to extend and strengthen the transmission and distribution system to cope with the transmission connection, reactive power and oscillatory stability challenges. It also does not include any additional costs of managing a power system with such a large wind generation capacity installed.

To put this into context, the total investment in fossil fuel generating capacity (either commissioned or currently under construction) in the southern and eastern states of Australia since the beginning of the National Electricity Market (NEM) some ten years ago, is just under 12,000 MW (made up of 3200 MW of coal thermal capacity, 5400 MW of Open Cycle Gas Turbine and 3200 MW of Combined Cycle Gas Turbine). This has cost around \$12.5bn in 2008 dollars.

⁴ The average capacity factor of wind farms in Australia is currently around this level. Significantly lower capacity factors can be expected from photovoltaic and hydroelectric producers, and as the most efficient and best located wind resources get used up.

⁵ Wind farm developers already report costs significantly above this level. Wind generation remains by far the cheapest renewable generation resource.

So the 20 per cent RET will require around 25 per cent more capacity and around four times as much generation investment as the entire NEM has delivered in the same time period.

To deliver this level of renewable energy investment requires deep and mature supply chains. The major global wind developers and suppliers, such as Suzlon and Vestas, have only recently opened small representative offices in Australia. The global shortage of erection equipment needed for modern 2 MW wind turbines is well known. Australia also has very limited photovoltaic manufacturing capacity, and other possible renewable production technologies including geothermal, solar concentrator, solar thermal and wave energy are at the early demonstration stage, at best.

With such massive supply chain limitations, there is every indication that Australia will have limited ability to respond to renewable energy incentives over the term of the MRET scheme, to deliver the very significant targets. The EUAA is very concerned that there is no evidence that the Government has considered this in developing this policy but needs to be aware of the issue and its consequences. A failure to deliver would be seen as 'policy failure' and become a major source of embarrassment.

In view of the supply side limitations identified earlier, and the size of the renewable energy demand that the Government has created, the EUAA suggests that there is a very significant chance the market will not be able to deliver the necessary investment. In this case, the price of RECs will rise to their tax-adjusted penalty level, and energy retailers will have little choice but to pay a penalty rather than acquit their obligations (unless they are prepared to bid REC prices above the penalty adjusted level to protect themselves from brand damage for failing to acquit their obligations). This will be the worst of all worlds: a significant impost on energy consumers, and the resulting funds flowing to the Government's coffers for a lower than anticipated expansion in renewable energy.

There is reason to believe that existing REC prices suggest that market participants are anticipating exactly this outcome: REC spot prices have been at or slightly above their tax adjusted penalty level for several months. While the market is in contango as expected, the future delivery prices are well above reasonable estimates of the carrying costs based on the current MRET penalty. This outcome has been achieved despite a significant cumulative REC surplus to-date of up to 7 million RECs.

In other words, market participants appear to be anticipating both higher penalty levels in future, and that REC prices will trade at these penalty levels. This is despite the substantial REC surplus that exists at present. This would appear to provide a strong signal that market participants believe that the expanded RET will fail to deliver the Government's renewable energy objective.

5 The case for a renewable energy quota scheme in addition to the Carbon Pollution Reduction Scheme has not been made

The Mandatory Renewable Energy Target scheme was introduced in 2002 as combined emissions reduction and renewable energy industry development scheme. The

combination of relatively high baselines for already established hydro capacity, combined with a low total target for renewable capacity meant that the MRET scheme required only an additional 2%, or 3,000 GWh of Australia's electricity production over 10 years to be from renewable sources, in order to meet the scheme targets. Predictably, the existing scheme's targets have been met and a surplus of around 7m Renewable Energy Certificates (RECs) exists today.

As mentioned in the introduction, the expanded RET means an additional 38,000 GWh of renewable generation by 2020. In other words, the expansion of MRET to 20% of total generation is intended to give rise to a twelve-fold increase in the *additional* renewable energy required by the scheme (expanding from 3,000 GWh to 38,000 GWh per annum). Clearly this is a massive expansion.

As mentioned at the outset, the EUAA is not against the expansion of Australia's renewable energy capacity *per se*. Indeed, as the International Energy Agency has said that renewable energy has an important role to play in the transition to a low carbon economy. However, we believe in a measured and robust approach to the expansion of renewable energy based on well designed and thought out policy instruments. For example, the Carbon Pollution Reduction Scheme (CPRS), as outlined in the recent Government *Green Paper*, will provide a competitive advantage for renewable generation technologies relative to fossil-fuel generation.

The EUAA recognizes that the size of the competitive advantage will depend on the level of the emission price and the extent to which this is passed-through in the spot and contract electricity markets. Until there is clarity on expected emission prices, it is not possible to know the extent to which an additional incentive, through MRET – or in some other form – will be needed in order to attract the renewable investment to meet the Government's renewable energy policy goal.

At the very least, decisions on additional measures focussed specifically on renewable energy should follow, not precede, decisions on the CPRS (if they are shown to be necessary).

Moreover, as the Productivity Commission has pointed out, there are issues around whether the use of an expanded MRET will, in fact, conflict with the CPRS's objective of providing a least cost means of abatement by merely increasing the cost of abatement but not its level. Taken to one conclusion, this could mean that Australia either lives with the same abatement at a higher cost or else achieves less abatement for a certain cost. We do not believe that this is a sound policy outcome.

More generally, while the EUAA recognises that there may be justification for the introduction of a specific renewable energy scheme on dynamic efficiency grounds, the Government has not set these arguments out for discussion and there is no public evidence that they have been considered in the policy design.

Finally, we note that the Labor Party election commitment was to increase renewable generation to a specific level by 2020. But, the commitment did not specify that this was to be achieved by expanding MRET. Quota schemes such as MRET are but one of many different types of scheme that the Government could consider in order to expand renewable energy production. These approaches include grants, depreciation incentives and R&D incentives. Indeed, we note that the Henry Review of the tax system has

climate change tax impacts as part of its terms of reference and it would seem premature and pre-emptive to follow one policy direction whilst others are still under consideration.

The EUAA is concerned that there is no evidence that the Government has considered the advantages and disadvantages of the expansion of MRET relative to other approaches.

6 If renewable energy delivers benefits to the Australian community besides emission reductions, the government, not energy users, should pay for those benefits.

The EUAA is concerned that MRET does not adequately recognize or deal with the broader benefits to the Australian community that may derive from the expansion of Australia's renewable energy capacity. Such benefits could include, for example:

- diversification of energy (not just electricity) supply and hence improved energy security;⁶
- the potential development of industries and the creation of jobs, including in remote and regional parts of Australia;
- improved geopolitical security through reduced reliance on internationally priced fossil fuels.⁷

It is inefficient and inequitable to impose a cost solely on energy users for such benefits. At the very least, the Australian Government should fund these benefits through capital contributions, accelerated depreciation allowances or similar measures. This could also be funded by the Government from the proceeds of the sale of permits to be allocated to the reduction of carbon emissions.

Moreover, a scheme such as MRET will focus almost exclusively on the lowest costs and most mature forms of renewable energy, especially wind. By definition, it will do very little to encourage less developed forms of renewable energy until they mature. These technologies, some of which may have better longer term prospects to contribute to carbon pollution reduction, may have better long term prospects.

We recognize that the Government is already providing separate funding towards the research, development and deployment of renewable technology but are concerned that the implementation of the 20 per cent RET appears not to have considered the above matters and what is the best policy balance between quota and other forms of renewable energy assistance.

⁶ We note that the Government, through the Ministerial Council of Energy has energy security under consideration as part of an expected *White Paper*. This again appears to indicate that policy decisions on renewable energy are being taken within a narrow confine, whilst related measures are still under consideration.

⁷ See previous footnote.

7 State renewable energy targets ought to be abolished

As mentioned earlier, there are several State based renewable energy targets in place or proposed, including mandatory targets in New South Wales and Victoria and a Renewable and Low Emission Target announced in Queensland. For a given level of additional renewable energy, such schemes are more inefficient than national targets. For example, they generally involve more costly types of renewable energy investment (especially if they are restricted to a single State), prove less effective in developing renewable energy (being of smaller size), increase the costs of carbon pollution reduction and impose higher and multiple costs on energy retailers and users. They should be avoided.

The EUAA is opposed to State renewable energy targets and urges all States involved to abolish their targets as soon as possible. We therefore welcomed that the Federal Government's national RET was accompanied by some re-assuring statements to the effect that State measures would be abandoned under an expanded RET.

However, we are concerned that there have been no announcements about this yet and also that the Consultation Paper only referred to continuing discussions about how State based schemes will be absorbed into the expanded national RET. It would assist and provide greater certainty if there were definite announcements about the abolition of State based schemes as early as possible.

8 Treatment of “Trade Exposed Electricity Intensive Industries”

As the Consultation Paper points out, the existing MRET does not exempt “trade exposed electricity intensive” but the Victorian RET does exempt the State's two aluminium smelters and it is proposed that the Minister may exempt such industries under the New South Wales RET. We understand that there could also be similar exemptions under the proposed Queensland RLET. Under proposals outlined in the Green Paper, there would be limited provision for allocations of free permits to some “emissions intensive trade exposed” industries.

The EUAA is still considering the implications of the Green Paper proposals for treatment of “emission intensive trade exposed” industries and discussing these with its members. We will comment in detail in our submission on the Green Paper.

However, at this stage we would offer the following comments:

- industries which are high users of electricity and exposed to international trade will be most vulnerable to the expanded RET;
- the large size of the target relative to the existing MRET means that cost impacts are likely to be correspondingly more significant;
- the joint application of an expanded RET and CPRS increases the degree of vulnerability;

- it would seem incongruous to offer exemptions to businesses under the CPRS and then subject them to higher costs under the RET;
- the matter of exemptions and who to provide them to raises vexed issues that are very difficult to resolve and inevitably entails an element of arbitrariness;
- this will disadvantage some businesses and create economic distortions;
- granting exemptions will require others (businesses and households) to bear higher costs;
- retailers are likely to seek to pass on all of the higher costs imposed by the expanded RET and are likely to succeed.⁸

9 Administration

The 2006/07 Financial Report of the Office of the renewable Energy Regulator (ORER) states that the annual costs of administering the current MRET were some \$2.4 million. The Consultation Paper says that an additional \$15.5 million of “new funding” will be provided under the expanded RET to upgrade computer systems and for additional staff. It is unclear whether this is additional to the existing funding?

10 Conclusions and suggested actions before finalisation of the MRET policy

In view of the significant risk that the redesigned MRET will fail to deliver the policy objective, the EUAA suggests that steps should be taken to ensure that users do not bear the cost of this policy failure. Therefore we urge the Government to ensure:

- An early review of the MRET scheme, well before 2015.
- That any income that the Government obtains from retailers that fail to acquit the volume of RECs that is consistent with their MRET obligation, is recycled back to energy users (preferably) directly or otherwise through supply-side measures such as have been adopted in the Renewable Obligation Certificate scheme in Britain.
- That the Australian Government should fund the benefits of renewable energy that accrue to the Australian community through capital contributions, accelerated depreciation allowances, R&D incentives or similar measures. Such contribution could also help to facilitate a reduction in the penalty payment, while still providing the financial incentive needed to attract investment in renewable energy.

⁸ The experience of EUAA members with the existing MRET is that most, if not all, of its costs are passed on to end users. It is typical to have straight pass through clauses in contracts which see to this. Even though a higher target may make some end users look more closely at how to manage these costs, we would expect most of them to still be passed through.

The EUAA appreciates the opportunity to communicate its views on this very important issue and looks forward to further opportunities to express its views in future.