

Garnaut Climate Change Review  
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MELBOURNE VIC 3002

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18 April 2008

Dear Sir or Madam

**Re: Submission on Emission Trading Scheme Discussion Paper**

Thank you for the opportunity to respond to the Garnaut Climate Change Review Emission Trading Scheme Discussion Paper (the ETS Discussion Paper). This submission is complemented by two previous and separate Hydro Tasmania submissions in response to the *Interim Report* and *Issues Paper 4: Research and Development: Low Emissions Energy Technologies*.

Hydro Tasmania welcomes the essential and timely contribution of the Garnaut Climate Change Review (the Review) to the debate on the appropriate Australian response to the impending threats of climate change. Australia's response to the climate change challenge will require a portfolio of policy measures that must provide strong incentives for the immediate development and deployment of the range of necessary strategies and technology solutions. These greenhouse gas emissions reduction activities include maintaining and deploying renewable energy and low emissions generation technology, developing carbon capture and storage, improving energy efficiency and increasing carbon sinks.

Hydro Tasmania believes that:

- An Australian Emissions Trading Scheme (AETS) with a strong cap is essential to deploy least cost abatement options immediately. Hydro Tasmania broadly agrees with the AETS design elements proposed in the ETS Discussion Paper.
- It is unlikely that the carbon price will fully reflect the true cost of carbon in the initial period and be sufficiently high to deliver the technology deployment necessary to achieve Australia's long term abatement response.

- An enhanced MRET in parallel with an AETS is essential if an increased share of renewable energy in the national electricity generation mix is to be realised. Implementation of the Government's pre-election policy platform will accelerate the deployment of renewable energy technologies, and therefore the earlier realisation of technology cost reductions, providing a lower cost long term pathway to renewable energy generation infrastructure.
  - The MRET is proven and has demonstrated, beyond doubt, its effectiveness as a policy instrument to encourage the upgrade and refurbishment of existing renewable energy generation as well as deployment of additional renewable energy generation and therefore must be retained and extended.
  - An enhanced MRET can be introduced quickly, easily and at minimal incremental cost and must ensure a seamless transition from the original MRET measure.
  - MRET must remain in place at least until the prevailing electricity prices support commercialisation of new renewable energy project developments.
- Against this background, Australia's existing renewable energy generation must be retained.

The way in which AETS and MRET interact will primarily be a result of the emissions target and the renewable energy target. Further detail on each of these is provided in our attached submission. Having these two policy measures provides flexibility so that successive governments can monitor both programs and technology deployment and adjust the measures accordingly.

We would welcome the opportunity to provide the Review with further information about the contents of this submission or any other issues. Should you have any queries or require further information, please contact Kane Thornton, Manager Climate Change Strategy.

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Yours faithfully

<Original signed>

Andrew Catchpole  
General Manager  
Communications & External Relations

# GARNAUT CLIMATE REVIEW EMISSIONS TRADING SCHEME DISCUSSION PAPER

## Hydro Tasmania Submission

### Executive Summary

- If Australia is to have a meaningful response to the climate change imperative, the full environmental and social cost of carbon must be recognised.
- The proposed Australian Emissions Trading Scheme (AETS) will form an essential element of Australia's greenhouse response. The scheme design must ensure the full cost of carbon is reflected in all investment decisions as soon as practically possible. If the scheme is to deliver on its abatement objectives, it will require a sufficiently high carbon price from its commencement.
- Hydro Tasmania broadly agrees with the AETS design elements proposed in the ETS Discussion Paper. Our specific comments on each of the key design elements are summarised in Attachment C.
- An AETS is only one element of the suite of policy responses required to achieve greenhouse gas emissions abatement across the economy. As recognised in the *Interim Report*, there will be additional barriers and hence further policies required to underpin the development of future generations of abatement technologies. The AETS should be complemented by measures that address these market failures
- The Mandatory Renewable Energy Target (MRET) is a proven and effective policy measure to provide incentive for the deployment of new renewable energy and upgrade and refurbishment of existing renewable energy generation assets. Increasing the target and extending the measure can be achieved quickly with minimal intervention.
- An enhanced MRET in parallel with the AETS is essential if an increased share of renewable energy in the national electricity generation mix is to be realised. Australia has vast renewable energy resources and capability ready to be deployed to make an immediate and significant contribution to the emissions abatement challenge. An enhanced MRET in conjunction with the AETS will accelerate the deployment of these renewable energy technologies, and therefore the earlier realisation of technology cost reductions, providing a lower cost long term pathway to future renewable energy generation infrastructure.
- Any review of the continued role of MRET in parallel with the AETS after 2020 should take into consideration the extent to which prevailing electricity prices support commercialisation of new renewable energy project developments, and the imperative to continue specific support for emerging renewable energy technologies.

- The MRET and AETS must ensure continued incentives to maintain, refurbish and upgrade existing renewable energy generation. Any loss of this capacity will only exacerbate the abatement challenge and increase the cost of achieving targets.

## 1. Introduction

Hydro Tasmania is the largest renewable energy generator in Australia, producing approximately 50% of Australia's renewable energy. Hydro Tasmania continues to make a major contribution to the production and growth of renewable energy and reduction of greenhouse gas emissions including through global wind energy developer Roaring40s, a joint venture company between Hydro Tasmania and China Light and Power, and with a Consulting business providing expertise internationally.

Climate change presents a material business risk to Hydro Tasmania. As a predominantly hydropower and wind generator, Hydro Tasmania is particularly vulnerable to changes in rainfall, temperature and wind speeds that may occur as a result of climate change.

It is clear that Australia can not solve the global climate change challenge alone, particularly given that the nation currently makes a very small contribution to the total global greenhouse gas emissions. The establishment of common but differentiated international emissions reduction targets, based on the latest scientific evidence, is essential to ensure that all countries makes a contribution - within their means and potential - to the global challenge.

As a prosperous and innovative country, Australia has a clear opportunity to take a leadership role and demonstrate the range of activities and technologies that can deliver global emissions reductions and ensure sustainable economic transformation. An increasing body of research and analysis is predicting that these targets and this economic transformation is readily achievable and at minimal economic cost. Attachment A provides a summary of a number of recent studies which demonstrate this point.

This transitional challenge will only be exacerbated however if Australia was to lose any of the existing zero emission renewable energy generation technology. The targeted increase in the overall contribution of zero and low emissions generation to Australia's energy supply mix must ensure adequate incentive for both the deployment of new renewable energy assets as well as the maintenance of existing renewable energy assets.

In particular, Australia's aging hydropower assets (which currently account for over 50% of Australia's renewable energy generation) have long term investment cycles which require policy incentives to make major refurbishment commercially viable and ensure continued generation from zero emissions hydro power. This includes a number of heritage listed power stations with significant cultural value throughout Tasmania. Any replacement of these existing renewable energy assets with greater emissions intensive energy sources (for example, the decommissioning of aged hydro power plant and replacement with combine cycle gas turbines) will only further exacerbate Australia's carbon abatement challenge.

This submission provides an overview of the interaction of policy measures necessary to maintain this existing generation and unlock the future potential of renewable energy in Australia. Key issues discussed include:

- the role and design of an Australian Emissions Trading Scheme (AETS);
- the need for an expanded Mandatory Renewable Energy Target (MRET), including:
  - coexistence of the MRET and AETS; and
  - the role of MRET post 2020.

## **2. The role & design of an Australian Emissions Trading Scheme (AETS)**

Hydro Tasmania strongly supports the Review's proposed introduction of an Australian Emissions Trading Scheme (AETS) as an essential element of Australia's climate change response.

Hydro Tasmania broadly agrees with the AETS design elements proposed in the ETS Discussion Paper. We note that the scheme design must ensure the full cost of carbon is reflected in all investment decisions as soon as practically possible. If the scheme is to deliver on its abatement objectives, it will require a sufficiently high carbon price from its commencement.

Our specific comments on each of the key AETS design elements are summarised in Attachment C.

Combined with appropriate complementary measures, an AETS can ensure strategic investment in, and development and deployment of, existing and emerging zero and low emissions technologies. This will help Australia to achieve its emissions reduction targets, and ensure these technologies become a viable abatement option in the long term.

A well designed AETS should provide long term investor certainty to encourage an increased uptake of new zero and low emissions generation whilst still maintaining Australia's economic competitiveness. A stringent long term emissions cap, as well as unambiguous interim gateways, is essential to recognising the full cost of carbon and achieving Australia's long term emissions reductions. Without a stringent target it is unlikely that a sufficiently high carbon price will be established to deliver the optimal level of investment in, and deployment of, renewable energy and low emissions generation technology.

The ETS Discussion Paper acknowledges that international linking of the AETS will encourage least cost abatement and is likely to result in the Australian carbon price converging with the international carbon price. This is likely to take some time to achieve. Once Australia is linked to the international market, prices would be determined by more significant international supply and demand factors.

### 3. The complementary role of an expanded Mandatory Renewable Energy Target (MRET)

**An enhanced MRET in parallel with an AETS is essential if an increased share of renewable energy in the national electricity generation mix is to be realised.**

An AETS is only one element of the suite of policy responses required to achieve greenhouse gas emissions abatement across the economy.

*“Establishing a carbon price alone will be an incomplete approach to mitigating climate change; additional measures will be required”<sup>1</sup>  
(Garnaut Climate Change Review Issues Paper 4, page 2)*

As recognised in the *Interim Report*, there will be additional barriers and further policies required to underpin the development of further generations of abatement technologies. The AETS should be complemented by measures that address these market failures.

Until the full cost of carbon is factored into the wholesale electricity price, it is unlikely that an AETS alone will encourage the optimal level of investment in renewable energy in Australia. This will take some time to achieve.

Support from an expanded MRET is therefore critical if the Government’s 20% by 2020 renewable energy target is to be achieved. This was clearly illustrated by a late 2007 study commissioned by the Renewable Energy Generators of Australia (REGA) which concluded that by 2020, with low to moderate carbon prices and no target for zero and low emission generation, renewable energy generation increases to around 26,000 GWh.<sup>2</sup> This is well below the Government’s proposed target of 45,000 GWh by 2020.

The same dynamic is evident in Europe where the European Commission has just proposed “A Climate Action and Renewable Energy Package” which includes an expansion of the EU Emissions Trading Scheme (EU ETS) and legally enforceable renewable energy targets for Member States. The clear message from Europe, which hosts the world’s most ambitious emissions trading scheme, is that despite a significant tightening of the EU ETS in its second phase and potentially third phase (beyond 2012), mandatory renewable energy targets are being employed to meet renewable energy policy objectives.

Attachment D provides more information on EU developments.

Electricity from renewable energy sources currently costs more to produce than that produced from fossil fuel energy sources. The long-run average costs for available renewable energy generation options in Australia are detailed in Figure 1.

<sup>1</sup>

<sup>2</sup> MMA (2007). *Increasing Australia’s Low Emission Electricity Generation – An Analysis of Emissions Trading and a Complementary Measure*. Report to Renewable Energy Generators of Australia.

**Figure 1: Long-run average costs of renewable generation options in 2007 (\$/MWh)<sup>3</sup>**

Renewable generation type	Minimum	Maximum
Hydro-electric	60	150
Wind	80	120
Biomass	85	158
Geothermal	65	95
Concentrating PV	130	200

Note: Long-run average costs represent average cost (including capital, transmission, operating and fuel costs) calculated using 9% pre tax cost of capital. Costs are in mid 2007 dollar terms.

These costs are significantly higher than current wholesale electricity costs, which are currently in the order of \$45/MWh. Unless this 'cost gap' is closed, additional renewable energy generation projects will not be commercialised and continued investment in these technologies will not occur.

Box A provides an instructive case study for wind energy – the technology with currently the greatest scope for en-masse deployment.

#### **Box A: Wind Energy Case Study**

Based on Figure 1, the mid-range estimate for the levelised cost of new wind energy is \$100/MWh.

At an average wholesale energy price of \$45/MWh, and in the absence of support from the MRET, new wind energy projects will require an average electricity price uplift of \$55/MWh to ensure financial viability.

We estimate this uplift to be equivalent, in theory, to an average carbon price of ~\$69/tCO<sub>2</sub>-e.<sup>4</sup>

There is no currently no certainty that the proposed AETS will deliver this level of carbon price in the short to medium term. There is therefore a continuing need for an enhanced MRET to facilitate the commercial viability of the development of wind and other renewable energy technologies in Australia until such time as the full cost of carbon is realised.

While technology costs for wind energy will continue to fall due to learning effects, current installed capacity costs have actually increased in real terms due to spiralling global demand and increasing material and labour costs. To the extent that this upward pressure impacts on the effect of long term learning effects, new projects are likely to temporarily require even higher carbon pricing levels to support commercialisation.

The MRET, through the creation of new revenue streams associated with the sale of renewable energy certificates (RECs), has provided a means to close this gap since its introduction in 2001. An expanded MRET has the potential to further decrease this gap until such time as the cost of carbon is fully included in the wholesale electricity price.

Under the MRET, renewable energy project developers are able to secure long term contracts (for RECs only or electricity plus RECs) which has provided the

<sup>3</sup> MMA (2007). *Increasing Australia's Low Emission Electricity Generation – An Analysis of Emissions Trading and a Complementary Measure*. Report to Renewable Energy Generators of Australia.

<sup>4</sup> Based on a ratio of wholesale price uplift (\$/MWh)/Carbon price (\$/tCO<sub>2</sub>-e) of 0.8. This is the approximate average carbon cost pass ration for the Australian electricity market.

basis for commercialising new projects. In contrast, under an AETS there is no certainty that:

- (a) There will be an effective mechanism for long term (in the order of 10 – 15 years) price discovery in carbon;
- (b) Long term carbon price expectations will be incorporated into long term electricity derivative pricing; and
- (c) Project developers will be able to capture the uplift in electricity prices in long term power sales arrangements now.

Even if carbon prices reach levels that in theory would support commercialisation of new renewable energy projects, conditions (a) – (c) above would need to be fulfilled before practical financial viability is assured.

**The MRET has demonstrated – beyond doubt, its effectiveness as a policy instrument to achieve an increase in renewable energy generation.**

In the years leading up to implementation of the MRET in 2001, there was considerable opposition to the scheme on the grounds that it would have significant adverse impacts on industry, and that it would not deliver renewable energy targets in a cost effective manner.

The actual experience in the intervening years has been refreshingly different. Contrary to its critics, the Australian MRET set the international benchmark for the large number of similar schemes that have since followed it across the world. MRET has demonstrated its effectiveness as a market mechanism to achieve the desired policy outcome, without adverse economic impacts, and without Trade Exposed Energy Intensive Industry (TEEI) exodus en-masse.

The 2003 review of the MRET concluded:<sup>5</sup>

*“By August 2003, MRET had contributed significantly to additional renewable energy generation with 190 power stations accredited. Of these, 84 have been commissioned since MRET came into operation. MRET’s interim targets for electricity generation during its first two years of operation have been exceeded with no evidence of significant shortfalls by liable parties...”*

*...By 2007, sufficient capacity is expected to have been installed to meet the MRET target of 9500 GWh for 2010. As a consequence, investment is expected to fall away rapidly.”*

This has proved to be the case with approximately 1,800 MW of additional renewable energy capacity installed in 2007<sup>6</sup>. The range of benefits from a vibrant Australian renewable energy industry are summarised in Attachment B.

<sup>5</sup> Australian Greenhouse Office (2003). *A Review of the Operation of the Renewable Energy (Electricity) Act 2000*.

Notably, The MRET review concluded that the MRET should be extended and enhanced.

*“The Review Panel considers that a continuation of the current gradual build-up of the MRET target would stimulate progressive growth in the renewables industry and provide opportunities for innovative Australian companies to gain experience in the domestic market, providing a sound base for future exports. Such an approach would also provide useful preparation for the larger contribution renewables may make at a later date”*

Furthermore, there is a strong development pipeline of renewable energy projects, with the Clean Energy Council recently estimating that potential investments of over 14,000 MW (around 40,000 GWh p.a.) have already been identified. These projects can proceed if an expanded MRET is introduced.

**An enhanced MRET can be introduced quickly, easily and at minimal incremental cost.**

Hydro Tasmania believes that the successful design of the existing MRET allows Government to move quickly to introduce its proposed target of 45,000 GWh by 2020. This can be achieved by retaining the basic design elements of MRET while making the following minor amendments:

- I. Changes to the target and interim targets to deliver 45,000 GWh renewable energy by 2020.
- II. Full eligibility for REC creation till the later of 2020 or 15 years from first generation.
- III. Penalty price to be set above the marginal cost of abatement and at a level that will support the industry meeting the measure.

Hydro Tasmania believes this can be undertaken quickly and simply to provide immediate investment certainty and commence the deployment of currently proposed renewable energy projects. It is also imperative that the integrity of the existing MRET and the incentive it provided to those projects already committed is maintained.

We note that the infrastructure required to administer the MRET is firmly established, enabling the target to be expanded at minimal incremental cost.

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<sup>6</sup> Clean Energy Council, April 2008

**An expanded MRET in conjunction with the AETS will accelerate the deployment of renewable energy technologies, and therefore the earlier realisation of technology cost reductions, providing a lower cost long term pathway to renewable energy generation infrastructure.**

By combining an expanded MRET with an AETS, dual objectives can be achieved, including:

- least cost emissions abatement across the economy; and
- specific support for the fledgling Australian renewable energy in order to establish substantial medium term growth and competitively export internationally in this strategically important rapidly expanding global sector.

The ETS Discussion Paper makes the following comment on the impact of incorporating renewable energy into the electricity generation mix:

*“With the ETS, the MRET will force a fixed quantum of renewable energy into the supply mix, possibly displacing lower cost non-renewable, but relatively low-emission alternatives. It is also likely that, based on current expectations of renewable energy supply and costs, the expanded MRET will drive the deployment of increasingly expensive technologies. At least in the medium-term, the result is likely to be a higher cost to achieve the same level of overall carbon constraint than would have been achieved in the absence of the MRET.” (Garnaut Review ETS Discussion Paper, p50)*

Hydro Tasmania notes that the accelerated deployment of renewables resulting from the MRET is likely to lower long term costs, as cost reductions from learning are realised by the market earlier than they otherwise would in the absence of the MRET.

This is recognised in recent analysis undertaken by McLennan Magasanik Associates (MMA) of the impact of a mandatory zero and low emission generation target in conjunction with a low or moderate carbon price, which observed that:

*“Benefits [from this measure] come from two sources. First, adopting a low emission target could change the economic efficiency of electricity supply. Economic efficiency in this study is measured as the change in capital, fuel and operating costs incurred in electricity generation. Low emission generation is likely to be a higher cost source of electricity generation in the short to medium-term, but the long-term cost could be reduced as a result of the learning by doing induced by this measure. Second, adoption of low emission technologies could increase the level of abatement of greenhouse gases. This is valued at the marginal cost of abatement (reflected in the carbon price).”<sup>7</sup>*

<sup>7</sup> MMA (2007). *Increasing Australia’s Low Emission Electricity Generation – An Analysis of Emissions Trading and a Complementary Measure*. Report to Renewable Energy Generators of Australia.

Most importantly, the MMA analysis underscores the importance of considering the economy-wide impacts of accelerating the uptake of renewable energy generation. Related modelling by the Monash University Centre of Policy Studies (CoPS) of the impact of the medium renewable energy and clean energy targets on the national economy from 2010 to 2030 found that the impacts were negligible.

This includes the benefits of an MRET associated with reducing the country's dependency on non renewable fossil fuels as well as broader socio-economic impacts. These benefits are ignored when focusing narrowly on least cost abatement required to meet a given emissions target.

The ETS Discussion Paper makes the following comment on the impact of an MRET on carbon prices:

*“A second implication of the co-existence of the MRET with an ETS is that the former will affect the dynamics of the latter, with the potential for depressing the carbon price and thereby diminishing its capacity to drive both demand and supply change across the covered sectors.”*

Any effect that the MRET has on domestic carbon prices will be comparatively small, and will decline proportionally over time as the carbon price rises. This interaction is discussed in more detail below.

**MRET must remain in place at least until the prevailing electricity prices support commercialisation of new renewable energy project developments.**

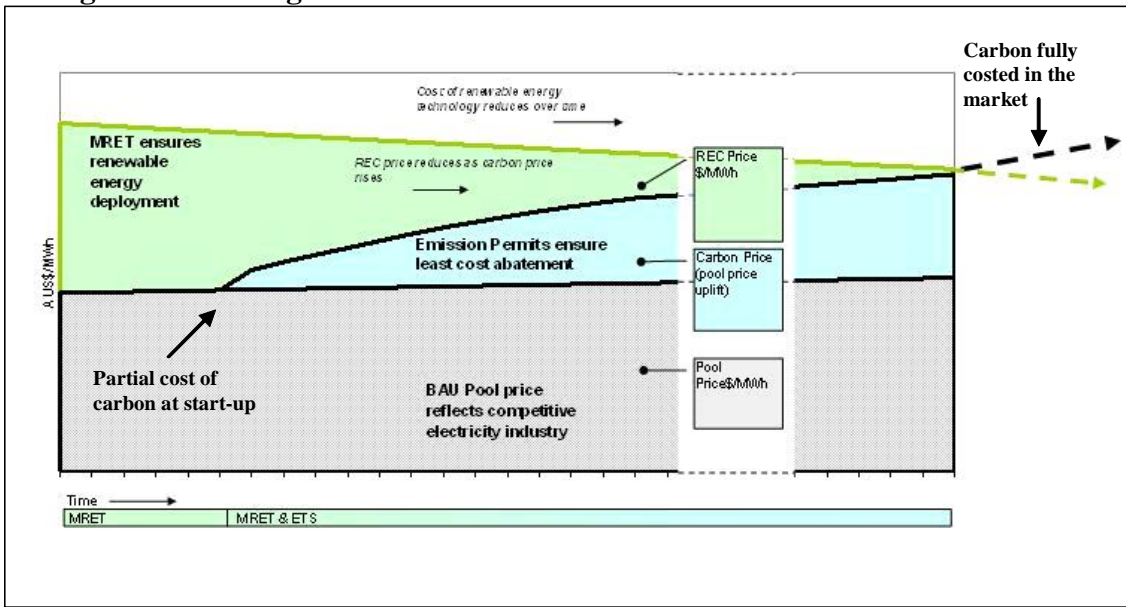
Any review of the continued role of the expanded MRET after 2020 should take into consideration the extent to which prevailing electricity prices support commercialisation of new renewable energy project developments, and the imperative to continue support for emerging renewable energy technologies.

Hydro Tasmania believes that any review of the ongoing role of the MRET after 2020 should take into consideration the following two key issues.

1. *Whether prevailing long term forward electricity prices (incorporating the cost of carbon) are at a level sufficient to commercialise new mainstream renewable energy (for example wind energy) generation developments.*

As illustrated in Figure 2, it is expected that the uplift in wholesale electricity prices resulting from the AETS will lead to a corresponding fall in REC prices, as REC prices should, in theory, be determined by the difference in levelised electricity costs and wholesale electricity prices for the renewable energy technology on the margin.

**Figure 2: Convergence of benefits under AETS and MRET**



2. *The ongoing policy imperative to continue an MRET style support for emerging renewable energy technologies that are past the R&D and 'first of a kind' stage but are not fully commercial under prevailing and forecast carbon prices.*

MRET based support should continue for other emerging technologies, including capital upgrades to older renewable energy facilities and renewable energy projects commercialised prior to 2020 that are yet to complete a 15 year life, particularly where market failure is demonstrated to persist.

## **Attachment A: Economic Impacts of Climate Action**

There have been several studies that have examined the economic impacts of comparable deep emissions cuts – in particular the modelling work carried out for the Australian Business Roundtable on Climate Change, CSIRO/ABARE and more recent analysis by MMA, CSIRO and the Centre of Policy Studies on behalf of the Climate Institute.<sup>8</sup>

- The Australian Business Roundtable on Climate Change analysis found that early action to reduce emissions is consistent with strong continuing economic growth (emissions reductions of 60% by 2050 could be achieved with average GDP growth of 2.1% pa, rather than 2.2% per annum without action).
- ABARE's modelling shows GDP continues to grow by between 2.2-2.4% pa with emissions reduction of between 68 – 36% relative to the reference case.
- The recent analysis for the Climate Institute suggests that achieving a 40-100% reduction in net emissions by 2050 (including through the purchase of international emissions credits) is consistent with strong economic growth. Gross Domestic Product (GDP) and Gross National Product (GNP) increase more than three fold over the 45 years to 2050 across all scenarios, and real GDP grows from less than \$1 trillion today to over \$3 trillion in 2050 in all scenarios.

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<sup>8</sup> *Deep Cuts in Greenhouse Gas Emissions - Economic, Social and Environmental Impacts for Australia*, Report to the Business Roundtable on Climate Change, The Allen Consulting Group, March 2006; *The heat is on*, Report from the Energy Futures Forum, CSIRO, December 2006; *Leader, Follower or Free Rider - The economic impacts of different Australian emission targets*, Report to the Climate Institute, December 2007

## **Attachment B: Renewable Energy Industry Benefits**

The value of the Australian renewable energy industry was investigated recently with research commissioned by REGA from McLennan Magasanik Associates (MMA) which found that:

- The industry provides around 15,000 direct and indirect jobs across Australia, has annual sales of nearly \$2 billion and has an estimated \$8 billion invested in assets that generate electricity.
- It is estimated that investment in renewable energy for the past five years has been approximately \$257 million per annum, with approximately \$369 million per annum to be invested over the next three years.
- The industry also makes a significant contribution to the important goals of diversity and security of energy supply. It does this without producing greenhouse gas emissions or degrading land and it does not compromise other environmental values such as air and water quality.

## Attachment C: Key Design Elements

Hydro Tasmania broadly agrees with the key design elements proposed by the Garnaut Review. Specific comments on individual design elements are provided below. Hydro Tasmania also agrees that targets should only ever be strengthened in order that investors can be confident in responding.

Design Decision	Garnaut Review Proposal	Hydro Tasmania Position
<p><b>Setting an emissions limit</b></p>	<p>Government should set the emissions limit for Australia. This emissions limit should be expressed as a trajectory of annual emissions targets over time, which define long term budgets.</p> <p><i>Trajectories</i></p> <p>Four trajectories should be specified upon establishment of the ETS. The first up to 2012 will be based on Australia’s Kyoto commitments. The other three for the post-2012 period reflect increasing levels of ambition. Movement between them should be based on determining the comparability of Australia’s response to international effort.</p> <p>The Review will provide advice to government on trajectories and interim targets for an Australian ETS. This will be informed by economic modelling currently underway and further analysis, and presented in the full reports.</p>	<p><b>Agree.</b></p> <p><b>A national emissions abatement target with unambiguous interim gateways is essential to ensure Australia makes a strong contribution to this global challenge and ensure long term investment incentive and certainty for industry response. Targets must be informed by emerging scientific evidence.</b></p> <p><b>Any economic modelling should take into account the potential retirement of existing ageing renewable energy assets.</b></p>
<p><b>Changes to the emissions limit</b></p>	<p>Deciding to move from one trajectory to another should only be made on the basis of international policy developments and/or agreements (which should allow for new information and developments of an economic or scientific kind).</p> <p>Conditions which would lead to a movement from one trajectory to a more stringent trajectory would be specified in advance.</p> <p>Once on one trajectory, government provides five years notice before movement to another. Any gap between the domestic trajectory and international commitments during this period would be reconciled by the independent authority purchasing international permits.</p>	<p><b>Agree.</b></p> <p><b>Short term targets with longer term gateways to provide investment certainty while allowing for adjustment to emissions target inline with emerging science.</b></p>
<p><b>Coverage</b></p>	<p>Gases: Six greenhouse gases as defined by the Kyoto protocol.</p>	

Design Decision	Garnaut Review Proposal	Hydro Tasmania Position
	Sectors: Stationary energy, industrial processes, fugitives, transport and waste from scheme outset. Agriculture and forestry to be included as soon as practicable.	<p><b>Agree.</b></p> <p><b>Coverage of all six gases across all sectors of the economy as soon as practicable.</b></p>
<b>Domestic Offsets</b>	Domestic offsets should be accepted without limits, but will have a small role, given broad coverage.	<p><b>Agree.</b></p> <p><b>Any offsets should ensure consistent and robust environmental and financial additionality requirements are satisfied and consistent with international standards. Offsets within covered sectors should be excluded. Priority should be given to offsetting from sources that make immediate and permanent emissions reductions.</b></p>
<b>Point of Obligation</b>	Set at point of emissions where practical. Where transaction costs are lower than the cost of distortions that may arise, upstream or downstream may be appropriate.	<p><b>Agree.</b></p> <p><b>The principles for the point of liability must be clearly defined and articulated and should be in principle consistent with international standards and precedent.</b></p>
<b>Permit Issuance</b>	Permits released according to emissions reduction trajectory. All permits auctioned at regular intervals. (Note, some permits may be used in lieu of cash in providing transitional assistance to traded-exposed, emissions-intensive firms at risk.)	<p><b>Agree.</b></p> <p><b>Support auctioning with judicious use of transitional assistance to the various parties that are disadvantaged by the AETS. This may include from the community sector, jurisdictions, trade exposed emissions intensive industries and incumbents. Transitional assistance must avoid perverse incentives to continue operation beyond current planned lifecycle and ensure a genuine transition to lower carbon intensity.</b></p>
<b>International Linkages</b>	Opportunities for international linkage of the Australian ETS should be sought in a judicious and calibrated manner.	<p><b>Agree.</b></p> <p><b>International linkages should be pursued to ensure least cost of emissions reductions globally, while ensuring that environmental credibility and scheme integrity are retained. AETS design must preserve potential for</b></p>

Design Decision	Garnaut Review Proposal	Hydro Tasmania Position
		future linkage with other international emissions trading schemes.
<b>Price Controls</b>	Not supported.	<b>Agree</b>
<b>Inter-temporality</b>	Unlimited hoarding allowed. Official lending of permits by the independent authority to the private sector allowed, but may be subject to limits, in terms of quantity and time, determined by the independent authority.	<b>Agree.</b>  <b>Support banking and very limited borrowing (for a single year) to the extent that it allows for any administrative oversight or leeway and annual balancing of liability. Excessive borrowing has the capacity to risk the integrity of the scheme and ultimate achievement of abatement targets.</b>
<b>Treatment of TEEHs</b>	Some industries rely significantly on emissions-intensive production processes, and are substantially unable to pass costs of emissions through to customers because price of commodity or good is determined on international markets. Transitional financial assistance (possibly in the form of free permits) should be provided to account for distortions arising from major trading competitors not adopting emissions limits (or pricing).	<b>Agree.</b>  <b>Support some transitional assistance for TEEH that avoids perverse incentives to continue operation beyond current planned lifecycle and ensure a genuine transition to lower carbon intensity.</b>
<b>Governance</b>	Policy framework set directly by government. Scheme administered by independent authority.	<b>Maximise the extent of market forces determining the right outcomes. Review and intervention must be undertaken with clear signals to industry on the timing and nature of such intervention. This must be undertaken in a manner which generally reduces political intervention in ongoing scheme operation and regulation.</b>  <b>Design must encourage the establishment and development of secondary markets that can efficiently manage price risk for all scheme participants and minimise short term price volatility.</b>

Design Decision	Garnaut Review Proposal	Hydro Tasmania Position
<p><b>Compliance &amp; Penalty</b></p>	<p>Penalty to be set as a compliance mechanism. Penalty does not replace obligation to acquit permits; a ‘make-good’ provision would apply. Alternatively, the use of revenue from a financial penalty could be used to purchase abatement.</p>	<p><b>Agree.</b></p> <p><b>A penalty that is set above the marginal cost of technically and commercially available abatement and/or the prevailing international abatement price and provide the necessary incentive for real abatement action. A make good provision must be implemented to ensure the environmental integrity of the scheme is maintained. The penalty should not be tax deductible.</b></p>
<p><b>Use of Permit Revenue</b></p>	<p>Auctioning of all permits will be the source of a substantial amount of government revenue. Governments will need to assess competing priorities for this revenue, which may include:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Payments to TEEIs (to correct for market failures);</li> <li><input type="checkbox"/> Payments to households;</li> <li><input type="checkbox"/> Structural adjustment to support declining communities;</li> <li><input type="checkbox"/> Payments to firms to correct market failures in relation to new technologies;</li>   <li><input type="checkbox"/> Support for public infrastructure; and</li> <li><input type="checkbox"/> Cash reserves to purchase international permits/offsets to reconcile domestic emissions with international commitments.</li> </ul> <p>The political acceptability of the introduction of the ETS would be enhanced by government commitment to transparently return to the community through the mechanisms outlined above or in other ways, all of the revenue generated by the sale of permits.</p>	<p><b>Revenue from allocation or penalty payments should be used to reduce unintended economic distortions and further encourage abatement. This should include investment in R&amp;D of renewable energy.</b></p>

## **Attachment D: European Union Climate Policy**

In January 2008 the European Commission proposed a series of EU-wide policies to implement the major energy and climate decisions taken by the European Council in March 2007, which included:

- a commitment to reduce the EU's GHG emissions 20% below 1990 levels by 2020, and 30% below if other developed countries agree to comparable reductions and economically advanced developing countries contribute according to their respective capabilities and responsibilities; and
- a mandatory target to increase renewable energy to 20% of the EU's overall energy mix by 2020, including a minimum of 10% biofuels in overall fuel consumption.

Major elements of the "Climate Action and Renewable Energy Package" include an expansion of the EU Emissions Trading Scheme (EU ETS) and legally enforceable renewable energy targets for Member States.

These renewable energy targets will be met through a range of renewable energy policy measures in each country that will run in parallel to the EU ETS.