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Dear Professor Garnaut

In response to your request at our meeting on 3 December 2007, and reflecting on the issues articulated in your S.T.Lee Lecture of 29 November, I outline in this letter the key issues and principles that the Energy Supply Association of Australia (esaa) believes are critical to an effective and efficient greenhouse mitigation response that achieves emissions reductions at least cost, without compromising Australia's secure, reliable and competitive energy supply. The esaa appreciates the difficulty and complexity of the tasks that the Garnaut review (*the review*) has been commissioned to undertake, and we anticipate making further more detailed submissions in response to the discussion papers foreshadowed by the review.

esaa is the peak industry body for the stationary energy sector in Australia and represents the policy positions of the Chief Executives of over 40 electricity and downstream natural gas businesses. These businesses own and operate some \$110 billion in assets, employ over 40,000 people and contribute \$14.5 billion dollars directly to the nation's Gross Domestic Product.

The esaa is fuel and technology neutral, and represents businesses that have investments across a wide range of fossil fuel and renewable generation technologies, and all sectors of the domestic energy supply sector.

Australia has an abundance of renewable and fossil energy resources, well developed energy supply infrastructure, efficient energy markets and strong governance regimes. However efficient investment is increasingly impeded by uncertainty in relation to greenhouse policy, which is a material deterrent to investment in the sector<sup>1</sup>. Additionally, the current multiplicity of uncoordinated policy responses at Commonwealth and State levels is unnecessarily increasing the economic costs of achieving abatement<sup>2</sup>.

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<sup>1</sup> Report to the Owen Inquiry : Securing Private Investment in New Generation in New South Wales, Morgan Stanley, August 31, 2007

<sup>2</sup> Report of the Task Group on Emissions Trading, Prime Ministerial Task Group on Emissions Trading May 2007

Secure, reliable and competitively priced energy is essential to the functioning of all aspects of modern economies. Preserving Australia's internationally competitive energy supply, whilst transitioning to a carbon constrained world, should be a primary objective of an optimal greenhouse mitigation strategy. In this context the esaa has since 2004 called for a national response to greenhouse policy incorporating a long term emissions reduction target, and since early 2007 has advocated that a well designed emissions trading system should be the core policy mechanism for achieving greenhouse mitigation efficiently at least cost. It is important to emphasise that all emissions trading systems are not equal, and the need for careful design can not be overstated.

The esaa welcomes the emergence of a national political consensus for the introduction of a single national Emissions Trading Scheme (ETS), with medium and long term targets, that is focused on achieving least cost emissions abatement. We believe that *the review* presents an opportunity to build on and enhance the considerable work already undertaken by both State and Commonwealth Governments to ensure that the design and implementation of Australia's greenhouse mitigation strategy is as effective, efficient and equitable as possible given the 'diabolical' nature of the policy challenge. However, in the short term *the review* does itself add to uncertainty regarding greenhouse policy, and it is important that the Government identify, commit to, and communicate the key design principles for the ETS as soon as practical. *The review* should consider the findings and recommendations of the National Emissions Trading Taskforce (NETT's) and the (former) Prime Ministerial Task Group on Emissions Trading (PM's Task Group) carefully. The esaa and many other organisations provided detailed submissions to these processes<sup>3</sup>.

The esaa believes that a well designed ETS must be national, long term, economy wide, cover all gases and have the widest practical inclusion of sources and sinks. The scheme should be equitable, and must provide compensation to firms disproportionately impacted by this major policy change that will materially impact on the value of some very significant investments. This principle is particularly critical to ensure efficient and timely ongoing investment, and market stability, in the electricity generation sector.

The ETS should be the central greenhouse mitigation measure, allowing the market to price and allocate scarce carbon emissions. It should be supported by coordinated complementary measures only where it can be demonstrated that they are likely to reduce the overall cost to the economy by overcoming demonstrable market failures. The emissions trading scheme should not be undermined by overlaying uncoordinated, poorly targeted, and conflicting Commonwealth, State or Local government policy interventions that will impede the efficient functioning of the market. Most existing policy interventions should be removed on the introduction of an economy wide ETS to cap emissions.

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<sup>3</sup> *esaa greenhouse related submissions are available at*  
[http://www.esaa.com.au/greenhouse\\_papers\\_submissions.html](http://www.esaa.com.au/greenhouse_papers_submissions.html)

International linkage of Australia's scheme is desirable, provided this does not impose additional costs by detracting from the design efficiency of the Australian system.

The esaa agrees in principle with many of the market focussed design principles outlined in your lecture, and we have provided specific comment in the following section on several elements raised in the S.T Lee lecture in relation to the sections titled 'living within Australia's emissions budget' and 'the role of government beyond the ETS':

### **Centrality of price and market mechanisms**

The esaa agrees that setting a price on emissions must be central to an efficient mitigation strategy, and that the market should be allowed to determine both the price of emissions through an emissions trading system and the appropriate mix of economic activity under the cap through 'private decisions in their own interests'.

Further we highlight that for the market to function efficiently, the price of carbon must be allowed to flow through to the prices of all goods and services – this is particularly critical for the energy supply sector where State and Territory Governments generally intervene in the market to regulate retail pricing. The allocative efficiency of the ETS will be undermined if some segments of the market are shielded from the cost of emissions, and the stability of energy supply threatened if retailers face increased wholesale costs while being prevented from increasing retail prices.

There is however strong justification for imposing some boundaries on the market, at least initially, by providing a price ceiling through an emissions fee or penalty to reduce volatility and cap the economic cost. The NETS will not be a naturally emerging market but rather an artificial and complicated market created by regulation. Providing a 'safety valve' will ensure that the impact of any market design failures that may emerge are limited.

Realistic emission reduction trajectories, taking into account technology availability and development lead times will be critical to maintaining economic growth while progressively reducing emissions. Allocating permits for a long time period and allowing the market full freedom to determine efficient reduction trajectories may be a means for achieving this. However, as discussed below, there are significant impediments to implementing this resource management approach.

### **Credibility of the NETS**

It is critical that the NETS be credible over a long period. As you note this will require legislative entrenchment, an independent and well resourced authority to regulate the system, and secure property rights.

In addition, the esaa believes governance will be improved if the functions of policy making, rule making and regulation under the rules, are carried out by separate independent bodies.

The regulatory structure of the Australian energy market provides an example of the separation of policy and regulatory institutions that would enhance the governance of an ETS. In the NEM, policy and legislation is developed by the Ministerial Council on Energy (MCE), market rules by an independent statutory authority the Australian Energy Market Commission, and application and enforcement of the rules is undertaken by a separate body the Australian Energy Regulator (AER). The esaa also believes it is important that any market operator be commercially focussed and free from direct government interference or ownership.

Most importantly, a credible, efficient and effective ETS will require stable policy making processes that prevent the Government from interfering directly in the market. Changes to market rules, and the crucial supply of permits, should be undertaken using well defined, transparent and independent processes and must consider and respect the value of the property rights of all participants (those holding permits and those with investments that generate emissions).

### **Emissions budget, targets and trajectories**

In principle there are attractions to the market-centric emission allocation method you propose whereby a carbon budget would be set over a relatively long period and then all permits under that budget would be created and allocated over a relatively short period, leaving the market free to determine the rate of use and price of permits.

However, our initial view is that there are a number of difficulties with such an approach which cast doubt over its appropriateness.

Firstly, dealing with climate change is a global issue. The atmosphere does not discriminate on the sources of carbon emissions. Solving climate change therefore requires multi-lateral action that with each new round of negotiation and improvement in scientific understanding will change the obligations of nations. It is impossible therefore to establish with certainty Australia's carbon budget for the next 40 years. Any carbon budget for Australia that is set for the 2010 to 2050 period, in the absence of an agreed binding budget for all nations over the same period, is not going to be enduring.

Secondly, markets will be intolerant of future government measures that adjust the number of available permits unless they fully fund adversely affected parties, whether through buying back permits at full commercial value and/or compensating permit holders who suffer losses due to market prices being affected through government altering scheme arrangements including the number of available permits. The ability of governments to fund such future permit buy-back and compensation activity is likely to be compromised by the revenue from auctioning of permits being received early in the carbon budget period (and consequently spent or committed by the government of the day).

Thirdly, allocating a long term emissions budget upfront and then allowing the market to determine the timing of use, is equivalent to allowing unlimited banking and borrowing of annual emissions permits over the period. In this context it is worth noting that both the NETTS and PM's Taskforce recommended that banking be allowed but not borrowing. The PM's Taskforce observed that 'borrowing increases the pressure on a future government to weaken the credibility of the scheme through an opportunistic additional issuance of permits in order to avoid sharp increases in the cost of permits'<sup>4</sup>. Conversely, borrowing may increase social pressure to interfere in the market if limited early abatement results – even if the market is actually optimizing the depletion rate.

Notwithstanding these difficulties, we recognise that there are some advantages to allowing the market flexibility in determining the timing of emissions as well as price, to reduce the need for 'bureaucratic clairvoyance' in annual allocations. Allocations periods that enable the market more latitude to determine price and rate of use of permits while avoiding locking-in governments to very long term fixed carbon budgets are likely to be more efficient arrangements overall. Final resolution of this may depend on international developments.

### **Permit Allocation**

Theoretically, the initial allocation of permits should not impact on the efficient operation of an ETS. Allocation is principally a transitional issue of wealth transfer and equity, and to a lesser extent facilitating price discovery and reducing administrative costs. However, your observation that 'an efficient ETS will separate the distribution of the value created by making emissions permits scarce, and the allocation of permits' is important in that the ETS should be designed to operate efficiently over a long period while allocation should be designed to meet the transitional objectives of equity, price discovery and low administrative cost.

The esaa supports the auctioning of permits remaining after the provision of compensation for disproportionately impacted assets, because as you note this is an economically efficient and transparent method. However, there are good reasons for using permits as the currency for compensating the owners of assets whose value has been adversely and disproportionately impacted on by the introduction of an ETS.

Paying compensation in the form of permits has the advantage that the permits have a natural hedge to the actual carbon price that emerges under an ETS. If the eventual permit price is higher than predicted when calculating compensation, then the shortfall will be catered for through the value of the permits being higher; conversely if the permit price is lower then the value of the compensation would naturally reduce.

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<sup>4</sup> *Report to the Task Group on Emissions Trading*, Prime Ministerial Task Group on Emissions Trading May 2007

The esaa contends that the compensation approach recommended by both the PM's Task Group and the NETTS, does appropriately separate the distribution of value associated with the allocation of permits from the design of the ETS. Both the NETTS and PM's taskforce propose to estimate 'ex ante' the loss of value due to the effect on future profits of the ETS, and then pay compensation upfront in the form of permits for the loss<sup>5</sup>. This approach ensures that the provision of compensation does not impact on the efficiency of the NETS by introducing perverse incentives or shielding an entity from the full cost of carbon in their operational decisions.

The alternative approach of auctioning all permits and paying compensation in cash does not resolve any of the complexity associated with the calculation of the required quantum of compensation, nor does it benefit from the natural hedge between emissions permits and the compensation required. However it does create unnecessary cash flow issues and additional transactions.

### **Use of NETS revenue**

As you note, the introduction of an ETS should not be used to arbitrarily increase the size of government nor have large and arbitrary effects on the distribution of income. Revenues remaining following welfare adjustments, the payment of compensation and funding of identified complementary measures should be returned in a manner that maximises the economic benefit.

The introduction of carbon pricing will necessarily increase the cost of carbon intensive products; in particular the cost of energy will rise. Given the essential service characteristics of energy, it is likely that welfare based adjustments for some segments of the community will be justified. As with the provision of compensation for adversely impacted asset owners, it is important that policy responses to address welfare concerns are structured to avoid creating perverse incentives or simply subsidising inefficient energy use. There may be merit in providing direct assistance to disadvantaged sections of the community to increase their energy efficiency, which effectively reduces the real cost of their energy use.

To avoid arbitrary impacts on the distribution of income it is also important that introduction of an ETS does not result in arbitrary destruction of capital through the reduction or elimination of future profits without compensation. Many energy assets, and particularly electricity generation assets, are capital intensive and long lived. Their carbon intensities are largely fixed at the time they are designed and built, leaving only limited scope to adjust to the pricing of carbon through modification or operational changes. The introduction of an ETS will fundamentally change the relative economics of existing and future market participants, severely restricting or even eliminating the value and working lives of some existing assets. This destruction of value would have a direct impact on the owners and creditors of these assets, and directly impact on most Australian's who own or lend to these assets through their state governments, superannuation funds and/or direct investments.

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<sup>5</sup> NETTS section 7.7.3, PM s Task Group report section7.4.1

In addition to addressing the equity and sovereign risk issues for existing investors, appropriate compensation will be important to ensuring ongoing investor confidence and energy market stability and reliability. In the short term it would be a leap of faith to rely on financially distressed entities being able to appropriately maintain complex generating plant to ensure consistent reliable supply during the 5-10 years or more it will take to build large scale new plant. In the medium to longer term, the demonstrated ability of the Australian government to create large and arbitrary wealth loss through the introduction of fundamentally new policy settings without compensation, would be likely to increase the risk premium demanded by investors in the new plant required to meet Australia's large and growing energy demand while reducing emissions. It may also skew investment decisions away from lower cost, but more capital intensive, generation toward higher cost, but lower capital, generation plant to minimise the risk that future policy changes will fundamentally alter the market before the initial investments are recovered thereby raising costs for all consumers.

Efficient ongoing investment in energy infrastructure will be critical to maintaining Australia's internationally competitive energy supply. For example, even with increased energy efficiency, electricity demand is forecast to grow approximately 67 per cent on 2006 levels by 2030. The introduction of an ETS will mean that in addition to meeting this underlying load growth, new investment will be required to replace existing generation assets with lower carbon intensity generation. Analysis undertaken by esaa in 2006 indicates that to meet electricity load growth to 2030, \$35 billion in new generation investment is required. However the required investment more than doubles to meet load growth while reducing the sectors' emissions by 30% on 2000 levels<sup>6</sup>.

Compensation for disproportionate loss of asset value is thus highly desirable from an equity and an efficiency perspective. It is important for the integrity, efficiency and effectiveness of the ETS that the compensation be designed to avoid creating perverse incentives or reduce exposure of some entities to the true cost of carbon. To avoid this, and notwithstanding the difficulty and inevitable approximations required to support ex ante calculations, the esaa supports the concept proposed in both the NETTS and PM's Taskforce that compensation be provided in the form of a one off upfront payment. This compensation should be calculated on asset by asset basis, at least in the electricity generation sector where the scale of the assets and quantum of potential losses will justify the administrative expense. As noted earlier, if compensation is provided in the form of permits then there is a natural link between the compensation required and the actual carbon price that emerges.

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<sup>6</sup> *Energy and Emissions Study (stages 1 & 2)*, esaa

## Role of Government Beyond the ETS

There is a clear role for Government beyond the ETS, at the very least in providing funding for research and development, and in particular large scale demonstration of new low emission technology in Australia. As you have noted, there are large external benefits associated with research and development. Under an ETS it is unlikely, and indeed undesirable, for the carbon price to reach a level sufficient to support the optimal research, development and particularly large scale demonstration required to develop the new, low emission technologies required to decarbonise energy supply systems to the point where they become available for commercial adoption. The esaa believes it is important that such research and development is not structured to 'pick winners', but rather is built around a broad portfolio of promising technologies for Australia. Demonstration grants should be made under a transparent, competitive process and leverage private capital.

Government also has a role to identify and implement other complementary measures to overcome demonstrated market failures, where the implementation of such policies will produce significantly lower cost abatement by overcoming market failure.

Government has an existing role in the establishment of the appropriate regulatory and market structures to promote efficient energy networks, and as you note it may have a similar role in encouraging efficient collection, transport and sequestration of carbon dioxide. There is no a-priori reason that changes to Australia's energy market regulatory environment are required to support the introduction of an ETS or to complement its operation. The existing regime is likely to have sufficient flexibility and economic rigor to facilitate and complement emissions trading. It is important to note in this context, that any complementary measures that may be mooted in relation to the natural monopoly energy assets (gas and electricity distribution, electricity transmission and some gas transmission) would need to be explicitly aligned with the existing economic regulation of these assets.

In conclusion, I would like to again welcome *the review* and highlight the importance of a timely, predicable and well designed greenhouse mitigation policy framework for the energy sector. I look forward to further engagement with the review and the release of more detailed discussion papers.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Brad Page', with a stylized flourish at the end.

**Brad Page**  
Chief Executive Officer