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Garnaut Climate Change Review – Update 2011
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Garnaut Climate Change Review – Update 2011, Paper 6: *Carbon pricing and reducing Australia's emissions*

The Energy Supply Association of Australia (esaa) welcomes the opportunity to make a submission to the Garnaut Climate Change Review – Update 2011 (the Update) in response to Paper 6 – *Carbon pricing and reducing Australia's emissions*. esaa has previously provided a submission on Paper 7 – *Low emissions technology and the innovation challenge* and Paper 8 – *Transforming the Electricity Sector*.

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 \$120 billion in assets, employ over 52,000 people and contribute \$16 billion directly to the nation's Gross Domestic Product each year.

As Australia's largest source of emissions, the energy industry has engaged keenly in the national conversation on greenhouse policy. The energy industry currently produces over 35% of Australia's greenhouse gas emissions and will be significantly impacted by the introduction of a price on carbon.

However, the Association considers that the implementation of a well designed national emissions trading scheme is a critical measure for ensuring investor confidence in the energy sector. A well designed emissions trading scheme must be efficient, effective and equitable in the long term and, importantly, must ensure a smooth and orderly economic transition in the short-to-medium term. Failure to ensure an orderly transition could have widespread and potentially long lasting adverse economic impacts.

Carbon pricing is a necessary but challenging reform

The importance of the energy industry to Australia and the necessary but difficult task of transformation

Australia's economy and society depends on energy. The Australian community today rightfully demands a first-class supply of energy from the industry and its tolerance to interruptions is very low.

To meet these high expectations, businesses in Australia's energy industry invest in, operate and maintain a world-class energy supply chain. Australia's energy users today enjoy a supply of energy that is exceptionally safe, secure, reliable and efficient with prices that are low by world standards - in spite of a customer load density that is lower than most of the developed world. The energy industry is proud to underpin Australia's economy and way of life.

Australia has benefited immensely from its energy industry over the last century, but because of its historical development and Australia's low-cost, readily accessible coal reserves, Australia's energy supply today is relatively emissions intensive. As the energy sector is Australia's largest source of emissions, energy supply must transform to a lower carbon intensity if Australia is to achieve domestically deep emissions reductions in the long term.

To assist the businesses that will power Australia into the future to respond to the new expectations of the community, it is essential that the right policy settings are in place to make a smooth transition. In contrast, failure to achieve the right settings will increase the risk of a disorderly transition and undermine energy security. While these issues should in time be remedied, the result will be a more costly energy system than necessary, for which consumers will ultimately have to pay.

Genuine adjustment challenges face the sector

The task of transforming Australia's energy supply should not be underestimated; even abatement targets belittled by some commentators as insufficient will be difficult to achieve¹. The commercial, financial and technological challenges for the sector to reorient five decades of investments based on fossil fuel to low emissions alternatives are significant.

A study undertaken for esaa in 2008 found that with a carbon price starting at \$20 and rising to \$45 over a ten year period, coupled with a 20% renewable energy target, several large power stations would have to close prior to their business as usual life. This impact on individual generation businesses is in addition to increases in costs for electricity consumers due to the pass-through of some carbon costs.

The modeling undertaken for esaa indicated that 6,700MW of mostly coal-fired generation capacity in the National Electricity Market (NEM) would have to be closed to achieve a reduction in emissions to 10% below 2000 levels by the year 2020 in the NEM and SWIS, while the value of many other generation facilities would be substantially reduced. These closures would represent about 15% of current generating capacity on the eastern seaboard. 15,000 MW (including 1,200 MW in the South West Interconnected System (SWIS) of Western Australia) of gas-fired and renewable generation facilities would need to be constructed to replace these closed facilities. This amounts to a third of Australia's existing installed capacity.

Even without the uncertainty caused by carbon policy there are considerable lead times in the planning, permitting, construction and commissioning of large infrastructure projects, which make such a target challenging. If there are any

¹ This is clear from the Government's own Energy White Paper modelling.

additional delays caused by disruptions to the supply of capital, labour and inputs from carbon policy, or in the regulation of the industry, then the security of Australia's electricity system could be jeopardised particularly given its efficient system reserve capacity.

The most effective way to manage these potential risks is not to delay or abandon the development of an emissions trading scheme – this would only serve to increase investor uncertainty. Instead, a well designed emissions trading scheme with a modest national emissions abatement target for 2020 is required as this would provide a smoother transition for the energy supply industry and allow the wider economy greater opportunity to adjust to one of the most fundamental structural adjustments ever applied in Australia by fiat.

A smooth transition could also mitigate some of the immediate negative impacts on coal-fired generators. However, even with a smooth transition, a number of these plants would still need to close while others would need to substantially reduce their production to meet even a modest emissions abatement target. To ensure a smooth transition to a low emission economy and to secure future investment in a lower emission energy supply sector, those generators that suffer significant value reductions as a result of the introduction of a carbon price should receive adequate structural adjustment assistance.

Electricity market consequences from a disorderly transition to carbon pricing

Electricity markets are remarkably complex due to the fact that electricity cannot be economically stored. The NEM is not an organic market but rather a compulsory spot market which is underpinned by a large volume of rules and regulations for its operation. The NEM can be volatile and occasional price spikes are necessary to provide sufficient returns to generators in the long-run and signal the need for new investment. As a consequence, generators and retailers rely heavily on hedge contracts and related financial instruments exogenous to the NEM, to ensure stable and secure revenue and, in turn, stable and secure supply. The SWIS is also a product of government design but it is a net pool capacity market, with a heavy reliance on bilateral contracts.

An emissions trading scheme is artificial in nature and the combination of two government designed markets should not be assumed to be seamless and to naturally follow the principles of market economics. The introduction of an emissions trading scheme without an adequate level of assistance will result in the write-down of the accounting value of a large number of existing assets. The substantial write-down of assets could have a significant destabilising effect on each of the electricity markets.

The write-down of generation assets will trigger provisions in financing arrangements and in some cases will result in borrowings becoming re-sized and either immediately repayable or repayable at a much earlier date. Alternatively, the borrower may be given a period of time to convince financiers that the facility ought not be cancelled, failing which, the borrowings would become repayable. This could cause retailers and other counterparties to withhold payment to a generator under a hedge/bilateral contract.

In addition, a number of assets have project finance-sourced debt facilities in place (from Australian and international sources) and a number of these will need to be refinanced in mid-2012. These power plants will slide into financial distress if this is not secured and the lending appetite will be dependent on the treatment of coal-fired generators under a carbon pricing regime.

The suspension of payment to one participant in the NEM or SWIS could quickly cause problems throughout the market, thus leading to a systemic failure. For example, if a retailer withheld hedge/bilateral payments to a generator due to concerns about the generator's credit worthiness then this would exacerbate the generator's credit issues and likely cause other counter-parties to withhold payments. The generator could then be forced into liquidation which would cause it to default on all its hedge/bilateral contracts. All retailers contracted with this generator would then be unhedged or, in WA, without a contract for supply and an obligation to source new capacity credits for its individual reserve capacity requirement.

This would result in a number of retailers being exposed to the spot market. If greater exposure to the spot market occurred in either the NEM or the SWIS, at a time when the spot market was already under stress and prices were volatile, these exposed retailers could default on spot market payments. In particular, high spot prices in the NEM are more likely when a generator is unhedged. In this event, the first remedy would be to call upon bank guarantees and letters of credit lodged by the retailers. These are substantial guarantees, typically covering about 45 days of consumption (70 days in the SWIS).

If the guarantees and letters of credit were not immediately replaced, AEMO (or the IMO) would have the right to suspend the retailers from the NEM (SWIS) and effectively force a transfer of their customers to other retailers in the market (the retailers of last resort). In the NEM, the retailer of last resort would then inherit the unhedged spot market position of the defaulting retailers and would be required to meet the guarantee commitments for its new customers inherited from the defaulting retailers. This would create major issues for the retailer of last resort – with the real potential for cascading default and systemic failure of the electricity market.

esaa has previously outlined its position on preserving asset value in its response to Paper 8 of the Update.

Electricity markets will continue to be efficient; but only if transitional policy is right

Australia's energy markets have served Australia well as an efficient mechanism to process information and allocate energy resources, and will continue to do so even under carbon pricing if the adjustment is properly constructed and implemented.

The essential point is that the imposition of carbon pricing is a step change; it adds a multi-billion dollar new cost to the sector and strips billions of dollars of asset value from energy businesses. It is unrealistic to expect markets to seamlessly digest such a 'game changing' new cost without increasing risks to energy security.

However, this risk could be avoided through appropriate mechanisms to deal with impairment and manage the transition. Not only would this be consistent with

Australia's history of structural adjustment reform in other industries², it would be in step with global approaches to emissions pricing. No other existing international carbon trading scheme has been implemented where a material carbon price has been applied to the energy sector and generators have had to bear the cost of every single ton of carbon from day one of the scheme. This is because the other jurisdictions have recognised the value to their communities of maintaining confidence in the electricity sector through a less abrupt transition³.

Critical design features for a carbon pricing mechanism

As set out, the introduction of a carbon price could present a number of challenges for the electricity market and hence the security and reliability of electricity supply if not carefully implemented. There are a number of critical design features, however, that would assist the electricity markets and promote a smooth transition to a lower emission energy supply system:

Modest interim target for 2020 coupled with a modest starting price for carbon (if the scheme is to commence with fixed carbon prices)

To ensure a smooth transition to a low emission energy supply system, a modest interim target should be set for 2020, with a modest starting price (if the scheme is to commence with fixed carbon prices as the Government is indicating). This would mitigate some of the immediate negative impacts on coal-fired generators and improve the prospects for security of supply until there is sufficient new investment in lower emission generation.

Early announcement of the emissions trading scheme cap and trajectory

An emissions trading scheme is the best mechanism for pricing carbon. However, investor confidence in the energy sector is dependent on the ability to confidently determine a clear view of future carbon prices. To date, this has not been possible, but the introduction of a carbon price is intended to rectify this.

To promote investment in long-lived lower emission energy infrastructure and enable generators to write future hedge/bilateral contracts, the future emissions cap and trajectory needs to be announced as soon as possible and permits made available.

With asset lives well in excess of 40 years, esaa considers that, as a minimum, annual emissions caps should be set for a 10-year period that is extended by one year, each year. A further 10-year emissions gateway should also be provided to enable businesses to form a view of future carbon prices over a 20-year period.

² Rather than seek to immediately introduce reforms overnight, the philosophy underpinning other structural reform of industries in Australia has been gradual transitions to allow the industry time to adjust. For instance, the withdrawal of tariffs for the automotive and textile, clothing and footwear industries was phased over decades and accompanied with supporting structural adjustment packages to facilitate an orderly integration into world markets.

³ Using tools such as: an administrative allocation of most or all permits during a transitional period (e.g. EU ETS, Korea's proposed ETS) partial liability for a period (e.g. NZ ETS), or setting parameters that result in a very low carbon price (e.g. REGGI).

Adequate structural adjustment assistance to coal-fired generators

Insufficient assistance is likely to result in an immediate reduction in some generators' credit ratings and/or breaches of financial ratios (due to the immediate impairment of asset values). At the very least, a number of generators would be unable to meet the prudential requirements of their Australian Financial Services License and would be unable to trade many contracts. In addition, for many of those generators it could also trigger a revision by financiers and/or result in the suspension of payments under hedge contracts as the generators would be unlikely to meet any requests for additional credit support. This may result in a series of financial defaults throughout the market. These events could significantly undermine investor confidence in energy markets and result in a reduced number of potential investors in the Australian energy sector for future developments, including low emissions plants. Higher hurdle rates would apply to any new investments that did occur due to increased risk premiums. This would in turn increase retail energy prices.

In proposing the Energy Security Loan Guarantee – which addresses debt – the Garnaut Review Update appears indifferent to the impact of carbon pricing on the other source of capital – equity. It suggests that the destruction of equity (as opposed to manageable changes in profitability) is an acceptable outcome of policy change and a normal risk of conducting a business. This policy change is not a normal part of doing business; it arises from a profound change of law and hence warrants appropriate transitional arrangements to deal with impairment.

In focusing on measures to alleviate risk to debt, but not equity, the Garnaut Review Update fails to recognise that there is a link between the treatment of investors in the current electricity sector and the transition to a future, lower emissions electricity sector.

The electricity industry is one of the most capital intensive in the world. In Australia the massive re-build and re-investment required to modernise infrastructure and reduce carbon emissions presents the sector with an unprecedented capital raising challenge. According to a recent speech by the Minister for Resources and Energy, between \$72 billion and \$82 billion could be required for investment in new electricity generation and transmission by 2030. If further investment in distribution networks, gas pipelines and associated infrastructure is added to this, the overall investment task for the energy sector could exceed \$220 billion.⁴

Investment of this magnitude will not happen by itself. It will require the energy industry to have the confidence to commit to very large investments that can generate returns over the lifetime of the assets (which may run to several decades). Importantly, these investments will be made in the context of a price on carbon, which it must be recognised, is a price that exists purely through government decree. As such, the future investment environment for the industry will be under the shadow of government policy change.

⁴ Australia's Energy Future, 4 May 2011, Speech to the Committee for the Economic Development of Australia.

Australia will need to attract overseas debt and equity as well as domestic investment if it is to find the capital to meet this investment task. The sector is internationally exposed in this regard. Given the ubiquitous regulatory risk of investing under carbon policy, Australia consequently must take steps to ensure it presents as an attractive destination if it is to raise this capital in the volumes required and at the lowest possible cost. In direct contrast to this imperative, destroying equity investments through a disorderly transition will send a profound and damaging signal to the international investor community about Australia's sovereign risk and raise the risks of doing business in its energy sector. This will have consequences in higher equity risk premiums, which will add to the cost of energy supplied to the community. Ultimately, it will be the Australian community that bears the costs of poorly conceived policies for the energy sector, as demonstrated by Simshauser & Nelson (2011) in their paper *"Carbon taxes, toxic debt and second-round effects of zero compensation: the power generation meltdown scenario"*. The paper states that:

"if zero compensation results in the financial distress of coal power stations, funding costs rise for all plant including new gas and renewables, leading to unnecessary increases in electricity prices. Accordingly, an unambiguous case for providing structural adjustment assistance to coal generators exists on the grounds of economic efficiency."

Simshauser & Nelson (2011) estimate the efficiency losses at "\$1.63 billion per annum in 2020 and \$8.6 billion in aggregate over the period 2015-2020".

The Association rejects any implications that the industry's calls for appropriate transitional arrangements are tantamount to excessive compensation, rent seeking, or 'payments to polluters'. Given the multi-billion dollar extent of impairment to assets from carbon pricing, any transitional arrangements are just a reduction in this damage.

Further, the Association rejects the implication that the industry is trying to short change the community or that consumers and industry are adversaries in the transition to carbon pricing. The generation assets under threat were built at a time when there was no cost on greenhouse gas emissions and no clear prospect of when or how such a cost might be introduced. The direct beneficiaries of these investments were households, businesses and large industrial producers who paid considerably less for their energy use than if either a carbon price had been in place or less-emissive technologies had been chosen instead.

Complementary auction design to deliver flexible priced permits

The energy industry is supportive of moving towards 100% auctioning of flexible priced emissions permits after a sufficient administrative allocation of permits has been made. As the largest liable sector, an auction design that promotes efficient price discovery; manages the significant working capital requirements of liable entities and assists parties to meet their obligation at least-cost is of considerable importance to the industry. Delayed settlement arrangements are an integral component of an efficient auction design.

Full auctioning will require generators in the NEM to purchase and surrender approximately 200 million units annually. As emission permits will be a significant cost in electricity production, electricity generators will need to secure emission permits before they can commit to sell electricity – both in the current year and in future years under forward electricity contracts.⁵

With an indicative national emissions target range of between 5 and 25 per cent below 2000 level emissions at 2020, generators will need to hold positions well in excess of \$10 billion – more than \$4 billion worth of units to comply with current year obligations, and positions on more than \$6 billion worth of units to support forward electricity contracting. This will significantly increase working capital requirements and exacerbate costs to meet prudential requirements. To manage this, auctions should be held regularly and for a stream of future years. Appropriate settlement arrangements are also essential to enable liable entities to manage working capital requirements, ensure participation at auctions and deliver liquidity to electricity contracting markets.

esaa considers there are two objectives of delayed settlement arrangements. These are to:

1. Manage working capital requirements and cash flow issues for liable entities; and
2. Enable liable entities to bid competitively on future vintages, to enable legitimate price discovery and assist liquidity in the wholesale forward electricity market.

In order to achieve these objectives, the energy industry supports the following approach to implementing settlement arrangements:

- Delayed settlement for auctions of both current and future vintages;
- A contract to purchase between the bidder and the relevant authority as the preferred purchase mechanism;
- Settlement of purchases should occur with permit delivery at the completion of the relevant vintage's financial year;
- No requirement for a deposit; and
- The duration for delayed settlements should not be constrained in advance, but rather should be part of scheduled reviews on the scheme's efficacy.

Cost pass-through

esaa has long supported the removal of retail price regulation where competition is demonstrably effective. A study undertaken for esaa by CRA International into the effect of retail price regulation found that price regulation in contestable retail energy

⁵ The forward electricity contracting market is an integral part of Australia's electricity market and is, among other things, an essential element in ensuring sufficient investment in new generation capacity to deliver reliable electricity supplies to consumers.

markets is likely to confer little or no public benefit but impose considerable direct and indirect costs, thus reducing overall welfare⁶.

For a carbon pricing mechanism to operate efficiently and provide least-cost emission reductions, consumers should be exposed to the cost implications of greenhouse gas emissions. The retention of regulated price caps creates the real risk that retailers may be prevented from passing on higher wholesale energy and network related costs and increased prudential costs associated with the carbon price in a timely manner. This could force retailers to experience significant losses and be unable to contract forward with generators. Systemic failure or financial distress among major retailers would increase volatility and risks in the energy market, reduce competition and potentially undermine system reliability and security of supply.

Designing a regulatory regime that can set retail prices in advance based on forecasts of likely forward wholesale prices, network charges and retail costs and margins is an inherently difficult task. esaa considers that retail prices set by open and competitive retail markets provides retailers with the greatest flexibility to pass-through such costs and provide end use customers with appropriate signals to engage in cost effective energy efficiency and demand-side management activity.

However, where governments are unwilling to commit to reform, there should be a consistent, national framework for the regulation of both electricity and gas retail prices that enables cost-reflective pricing and the full pass-through of emissions related costs to consumers.

The Update's proposed design of a carbon price mechanism

While the Update's proposals lack considerable detail, esaa is concerned that the proposed arrangements would not deliver long term investor confidence for the energy sector.

The Association considers that a carbon price should be set by the market within the framework of a well-designed emissions trading scheme rather than by governments through a fixed carbon price. Allowing the market to determine the price of carbon should result in the optimum allocation of resources to reach the target, at the most efficient cost. As such, the Association considers that the fixed price period in the proposed architecture should be as short as possible.

If there is to be a period of fixed-price permits, then this period should be no more than three to four years. It is noted that the Update proposes a three-year timeframe before a shift to full market trading, however, the range of conditions under which transition to flexible priced permits could be deferred is wide ranging. Delaying the shift could be potentially damaging to investor confidence. esaa strongly argues that certainty for industry is essential in order to drive efficient investment. The transition from fixed to flexible pricing should be enshrined in legislation in order to provide this certainty for the energy industry and broader economy.

⁶ esaa (January 2007) The effects of retail price regulation in Australian energy markets, CRA International. Available from http://www.esaa.com.au/reports__studies.html

Further, the timing of the announcement of a 2020 target must be sufficient to allow the sector to adequately invest. esaa notes the proposal to “auction ... undated permits for use after the first three years (the years of the certain fixed price)”. There may be difficulties in pursuing this approach given that the eventual scheme cap may not be known, and that the decision to move from fixed to flexible permits could be delayed. Uncertain variables such as these make it impractical for businesses to take an informed view on the value of these permits. The industry needs to secure a price for carbon for at least a further three years beyond the current year to enable forward contracting of electricity. The Update’s proposal does not provide the level of confidence the industry requires to support this forward contracting. Furthermore, the Association also contends that the proposed requirement for immediate payment at any auction for future dated permits to be unnecessary as has already been outlined in this document.

There is the distinct possibility that the fixed price will differ from the flexible price due to structural differences in the scheme phases. The risks of a sudden price spike, or fall, when the shift to a full emissions trading scheme occurs, could threaten existing investments. It is commendable that the Update recommends that the scheme be linked to international and offset markets. However, as an efficient scheme should drive lowest cost abatement, there is no reason to impose a cap on the use of Kyoto-compliant offsets in a domestic scheme.

Allowing for international linkages, and ensuring that these are available to scheme participants as early as possible, allows investors to form a view on what the permit price is likely to be once trading begins. Without this and a medium term domestic abatement target, their ability to plan, and invest accordingly, is impaired. To enable least-cost abatement, esaa supports full linkages with international markets, subject to it not disadvantaging Australia.

Conclusion

For Australia to continue to enjoy a reliable, competitive electricity supply while also reducing its greenhouse gas emissions as a society, it must be very careful in its policy choices.

The Association has been calling for a well-designed emissions trading scheme since February 2007 and the features of such a scheme are enumerated in countless public policy processes. The key is to strike a balance between introducing incentives to transition the sector towards lower emissions generation and maintaining an orderly transition. Any carbon pricing mechanism must deliver abatement; provide clear and timely signals for new investment; and manage the transition for emission intensive plant and address impairment of legacy assets to ensure reliability and security of electricity supply. Anything short of this would constitute policy failure. Given how deeply embedded the energy industry is into modern Australia, every Australian household and business has a stake in getting it right.

Any questions about our submission should be addressed to Kieran Donoghue, by email to kieran.donoghue@esaa.com.au or by telephone on (03) 9670 0188.

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