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Australian Energy Market Commission  
AEMC Submissions  
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### **Review of Energy Market Frameworks in light of Climate Change Policies – Scoping Paper**

The Energy Supply Association of Australia (esaa) welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) Review of Energy Market Frameworks in the Light of Climate Change Policies – Scoping Paper.

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 more than \$120 billion in assets, employ 49,000 people and contribute \$14.5 billion directly to the nation's Gross Domestic Product.

The AEMC has been directed by the Ministerial Council on Energy (MCE) to undertake a review of current energy market frameworks in both electricity and gas to assess the impact of two key Federal Government climate change policies: the proposed Carbon Pollution Reduction Scheme (CPRS) and expanded national Renewable Energy Target (RET). The MCE has requested that advice be provided on any amendments to energy frameworks that may be required by 1 September 2009.

esaa broadly endorses the scope of the AEMC review as proposed in the paper and considers that a forward looking evaluation of energy market frameworks will be highly important given the rate and extent of transformation likely to occur in the energy supply industry following the introduction of the CPRS and RET. Recent modelling undertaken for esaa by ACIL Tasman<sup>1</sup> illustrates the magnitude of the potential changes.

The ACIL Tasman study found that achieving a 10% reduction in emissions, coupled with a 20% RET, by 2020 would require the retirement of 6,700 MW of existing generation capacity and investment in approximately 15,000 MW of new gas-fired and renewable generation capacity. The expanded RET alone would require over 4,000 MW of new wind generation and an anticipated 1,500 MW of new geothermal, which in turn would require at least \$4 billion of additional investment in electricity

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<sup>1</sup> esaa 'The impact of an ETS on the energy supply industry - Modelling the impacts of an emissions trading scheme on the NEM and SWIS' July 2008. Available from: [http://www.esaa.com.au/reports\\_studies.html](http://www.esaa.com.au/reports_studies.html)

transmission. The study also found that gas consumption in the National Electricity Market (NEM) would almost triple to 375 PJ per annum.

The Association notes that modelling of the impact of carbon pricing on the electricity generation sector undertaken by McLennan Magasanik Associates (MMA) on behalf of the Commonwealth Treasury provides starkly different results than the ACIL Tasman study and all other relevant studies undertaken by the industry despite using similar emission permit prices. The MMA modelling relies on a range of exogenous assumptions and inputs derived from long term macro-economic modelling, and the Treasury report acknowledges that 'further analysis of the short term implications for the electricity supply industry is warranted' and defers to this review to consider 'key energy sector issues raised by the CPRS' on behalf of the MCE<sup>2</sup>.

esaa strongly recommends the AEMC undertake a comprehensive sensitivity analysis to explore the potential changes to the energy supply mix in response to variations of input assumptions in order to fully inform the MCE and the Federal Government of the potential issues.

The CPRS and expanded RET will potentially drive profound changes to the energy supply system in a relatively short period. esaa considers it timely to consider whether the existing energy market frameworks are suitably robust to accommodate the quantum of investment required in both the merchant and regulated elements of the energy supply sector to efficiently meet the Government's climate change objectives and ensure ongoing security and reliability of energy supply.

The broad issues the AEMC review is considering for evaluation are:

- Convergence of gas and electricity markets;
- Generation capacity in the short term;
- Investing to meet reliability standards and increased use of renewables;
- Operating the system with increased intermittent generation;
- Connecting new generators to energy networks;
- Augmenting networks and managing congestion;
- Retailing; and
- Financing new energy investment.

esaa supports the issues and questions identified in the AEMC paper as appropriate to guiding the scope of the review. esaa also supports the recognition in the paper of the need to ensure stability and predictability in the regulatory regime and for any amendments to the energy market frameworks to be proportionate to the materiality of the issues identified. In considering the issues, it will be important for the Review to delineate between transitional and ongoing impacts of the CPRS and the expanded RET, such that in developing targeted policy responses to the issues raised, the long term efficiency objectives of the markets are not compromised by short-term solutions.

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<sup>2</sup> 'Australia's Low Pollution Future, the economic of climate change', Commonwealth of Australia 2008

esaa has long maintained that fully cost-reflective pricing is fundamentally important to the success of the CPRS and on-going development of effective competition in the stationary energy market, and the question raised with respect to retail cost recovery is particularly pertinent to the sustainability of energy markets and to ensuring appropriate demand response to carbon price signals.

In addition to the questions raised in the paper, the AEMC should also consider: reviewing the impact on distribution networks and the likely adequacy of secondary financial markets for emission permits and the potential need for further consistency in the market settings for electricity and gas.

### Impact on Distribution Networks

esaa notes that the AEMC Review of Demand Side Participation (DSP) is currently considering a range of network related barriers to DSP which will be important in allowing the efficient pass through of carbon related price signals to energy consumers. The timeframes for both the DSP review and the Energy Markets Review have been aligned to allow the relevant issues from each to be considered together. While esaa supports this approach, there are a number of other network related issues not currently considered in the AEMC's scoping paper that warrant further consideration.

Both the CPRS and RET will result in increased incentives for investment in embedded generation. The RET will provide a direct financial incentive through Renewable Energy Certificates while the CPRS will drive increases in retail electricity tariffs, making the energy savings associated with industrial/commercial cogeneration facilities more attractive. Other policies, such as rebates for installation costs and solar feed-in tariffs, will also increase the penetration of embedded solar generation.

The ability to feed excess electricity from solar generation back into the grid will give rise to a number of technical and regulatory implications. New advanced metering infrastructure to measure electricity flows will need to be installed. As output from solar generation is greatest during the middle of the day, distribution networks will also require additional investment to manage reverse peak flows of electricity. The intermittency of solar will also give rise to network stability issues.

Investment in embedded generation will proceed mainly on an ad hoc basis, driven to a large extent by the cost of individual units and the various incentives discussed above. This may change energy flows and will make it difficult to predict the amount of network investment required.

The overarching policy aims of reducing carbon will also drive an increased focus among network businesses on mitigating system losses. It may be appropriate to consider the ways in which the existing regulatory framework could incentivise this behaviour.

## Financial Services: Adequacy of Secondary Markets

One risk that could potentially impact on the energy markets will be whether adequate secondary markets for emissions permits will develop in time to allow liable entities under the CPRS, such as generators, to more effectively manage the cash flow impacts associated with covering their contracted positions. If deep and liquid secondary markets do not develop in time, generators may have to acquire permits from the primary market at considerable expense. As an example, while actual emissions from the stationary energy sector are around a third of Australian emissions, the limited coverage of other sectors under the CPRS means the stationary energy sector will account for around half the permit market. The electricity generation sector in particular could need to hold over \$10 billion worth of permits to maintain their current 3-5 year hedge positions<sup>3</sup>. This would result in reduced cash flows for generators, increasing their need for additional credit support which could impact on their ongoing viability in the energy market.

## Consistency of Market Settings Between Electricity and Gas

The AEMC paper highlights the convergence of gas and electricity markets as an issue for the review. A relevant consideration that the AEMC should explicitly address in this area is the need for consistent market settings between electricity and gas markets. The CPRS will potentially drive investment in gas fired generation and increase the interdependencies between gas and electricity markets. A competitive spot market for gas currently exists in Victoria and similar markets are scheduled to commence operation in other jurisdictions around the same time as the CPRS. This will result in market participants, such as gas fired generators, being able to make more efficient trade-offs between using gas for generation or selling it to the market.

Unless the market settings for electricity and gas are broadly consistent, the risk of commercial decision making being skewed in favour a single market increases. For example, gas generators tend to operate during periods of peak demand in the NEM in order to maximise their revenue to recover their high capital costs. If the NEM Market Price Limit is set inconsistently with any limits in the respective gas market, this would create an incentive to arbitrage to the market with highest returns, potentially compromising system security in either of the electricity or gas markets.

While the Australian Energy Market Operator will be well placed as the single operator of both electricity and gas markets to manage such issues, ensuring consistency in the various market settings will assist it in ensuring the efficient and reliable operation of the energy markets.

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<sup>3</sup> 10 September 2008 Joint submission to Carbon Pollution Reduction Scheme Green Paper by the Energy Supply Association of Australia, National Generators Forum, Energy Retailers Association of Australia, and Australian Pipeline Industry Association – Pg 19. Available from [http://www.esaa.com.au/papers\\_submissions.html](http://www.esaa.com.au/papers_submissions.html)

## Conclusion

In summary, esaa welcomes the AEMC review and endorses the scope of issues to be considered but consideration should also be given to the impact on distribution networks, the adequacy of the secondary emission permit market and consistency between the market settings for electricity and gas. In particular, esaa considers that careful consideration should be given to the on-going viability of the energy markets in the absence of cost reflective retail pricing. esaa intends to provide further input into the AEMC's process both via written response and participation in the Stakeholder Advisor Committee and looks forward to reviewing the AEMC's draft report scheduled for 31 December 2008.

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