



17 May 2011

Garnaut Climate Change Review – Update 2011
GPO Box 854
Canberra ACT 2601

Sent by email: garnautreview@climatechange.gov.au

Garnaut Climate Change Review – Update 2011, Paper 7: *Low emissions technology and the innovation challenge*

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 7 – *Low emissions technology and the innovation challenge*. esaa has previously provided a submission on 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 stationary energy industry has engaged keenly in the national conversation on greenhouse policy, including providing detailed submissions to the original Garnaut Climate Change Review (the Review) outlining its views on appropriate policy to transition the sector to carbon pricing.

Cheap, but emissions intensive, electricity generation has underpinned Australia's growth and prosperity over the past few decades. However esaa recognises that the sector needs to play its role in transitioning to a low-emissions economy. Research, development and demonstration of new lower emission energy technologies will be critical if the sector is to continue to provide the nation with a safe, reliable, and affordable energy supply.

The Update's position on innovation appears to be consistent with the findings of the original Review. It is encouraging that the Update continues to recognise that a carbon price alone will not provide sufficient incentive to increase research and development into low carbon technologies. Funding will be needed, possibly originating from revenue raised by a carbon price mechanism, to stimulate research into Australia's next generation of energy supply.

Update Paper 7 suggests a variety of positive options to encourage innovation for low-emissions technologies, for example, the recommendation that funding for research and development be technology neutral. In addition, the Update correctly recognises the complex and duplicative nature of existing energy related research, development and demonstration (RD&D) programs.

Risks of large-scale funding schemes

Duplication

There is currently noticeable overlap and duplication between Federal and State government energy RD&D programs. At the federal level there are seven primary programs and a further eight programs operating at the state level, with each program consisting of a separate council, board, panel (or similar) to make recommendations on funding priorities and related matters. In addition, each program has its own application and assessment procedures and timeframes. There appear to be numerous opportunities for consolidating or streamlining programs within and across jurisdictions. esaa notes the Update's proposal to establish an overarching body – the Low Emissions Innovation Council (LEIC) – to oversee seemingly all aspects of national, low emissions innovation policy. While the concept has merit, its success will depend on the extent to which it replaces existing national and state-based RD&D programs.

For instance, difficulties are faced in managing multiple funding contracts – in particular, in trying to negotiate a variation to contract – where projects have received funding from both Federal and State government sources and the terms of the contracts have been negotiated and managed separately. In these instances, the LEIC could be extremely beneficial in terms of streamlining the requirements that need to be met by project proponents.

Administrative flaws

The slow administration of programs, including long timeframes required to conduct contract negotiations and delays in payments being made upon completion of agreed project milestones, frustrates the process of investing in the development of pre-commercial technologies.

Difficulties are also faced in meeting contractual milestone obligations due to high turnover of staff within those sections of government that are responsible for the administration of funding programs which gives rise to different interpretations of the requirements of contract obligations.

There is no guarantee that the LEIC would not fall into these same traps. Certainly, requiring one agency to assess applications and oversee existing projects would require a large number of staff. Otherwise, a poorly resourced single agency would only serve to heighten the existing problems that exist in RD&D funding programs.

Funding mechanisms

The mechanism chosen to encourage low emissions technology is also crucial. It would be prudent to allow for different funding mechanisms to be used in any large scale RD&D funding program, as some may be more beneficial at different stages of the innovation chain. The demonstration stage, which is often described as the “valley of death” for energy technologies due to the high cost of building a large-scale plant based on a new technology, is an area where government support is especially important to reduce the incidence of market failure. esaa sees that there are a variety of worthwhile mechanisms such as dollar-for-dollar matched funding and tax

credits that are options worth exploring. Applied properly, these can best allow the market to identify and develop optimal, low-emissions technologies.

Intervening at the deployment stage, when new technologies are approaching maturity, is more problematic. As the Update highlights, the policy tools often used at this stage, such as feed-in tariffs, have the potential to interfere with the efficient functioning of the market and can result in perverse outcomes, such as the NSW Solar Bonus Scheme.,

Support for low emissions energy RD&D should not be confused with reducing emissions at least cost. Recent reports have suggested that grants for RD&D have not provided 'value-for-money' in terms of cost per tonne of emissions abatement. Using this metric to determine the success of a program is misleading at best. Providing funding for RD&D enables industry to build capacity and learning in an emerging industry. Whilst this may appear to have a high abatement cost in early years, it is designed to enable lower costs once technologies mature.

Preferred Arrangements

Technology neutrality

The approach to energy RD&D funding at present appears to be an ad-hoc compilation of fuel and technology specific grant programs. Funding allocations, determined at the political level, are typically split between fossil fuel technologies, solar technologies, other renewables (including storage technologies) and network technologies. This approach is not conducive to technology neutrality and is highly unlikely to enable an efficient prioritisation of funding across the spectrum of generation, network or energy efficiency technologies. esaa considers that a technology neutral approach may be a better approach, and is encouraged by the recommendation to treat any new, low-carbon innovation funding in a technology neutral manner. The technology neutral attitude of the Update is certainly a positive step towards ensuring that low emissions RD&D can come from all areas of the economy, using as wide a range of methods as possible.

However, esaa is concerned that requiring one agency to assess projects across all sectors of the economy relating to low emissions technologies would necessitate significant expertise across a variety of fields. It may be difficult for one agency to find the personnel required to be able to investigate projects in the energy sector as well as transport, agriculture and industrial processes. In this sense it could be beneficial for the proposed LEIC to draw from existing knowledge in industry and government.

The Association also notes that given the global dimensions of energy RD&D, funding may be best targeted at technologies specific to the Australian context, given that generic technological developments will largely be driven by initiatives in larger economies. It is encouraging that the Update has recognised that research should be targeted at areas where Australia has a competitive advantage, or where it is in the national interest. These areas may extend beyond the areas specifically mentioned in the Update – carbon capture and storage, geothermal energy and biosequestration – although these all appear to be areas worthy of attention.

Ongoing support

esaa finds the Update's proposal to operate the LEIC on an ongoing, "open for business" basis, positive. Beyond commitments to existing programs there is no predictability regarding the level or direction of future funding support for energy RD&D. The ad-hoc nature of existing programs has the drawback that no degree of certainty is assured to businesses involved in earlier stages of technology development that funding support may be available in later (and much more expensive) development stages. Transitioning to a low-carbon economy will be a long, slow process, and as such, moving toward a more structured and enduring framework could promote greater levels of private sector investment and more streamlined pathways to technology commercialisation.

Given the timeframes involved in progressing technologies from original concept through proof of concept, prototype development, pilot demonstration, large scale demonstration, commercialisation and on to market, a centrally important element in any large-scale RD&D program such as the LEIC, will be its ability to promote predictability and stability in funding programs and foster confidence in the direction of energy policy.

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 careful in its policy choices.

The challenges facing Australia's energy sector to transform to a lower emissions footing are vast and should not be underestimated. Despite the scale of the task, the energy industry can start the transformation to lower-emissions intensity if the policy settings are right and there is support for research, development and demonstration projects across the entire economy. The energy sector is ready to continue its efforts to reduce emissions and supply safe, secure and reliable energy to Australian households and businesses.

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