



## Business Council of Australia

Submission to

**Australian Energy Market Commission** 

on

Review of Energy Market Frameworks in light of Climate Change Policies

November 2008

## Overview

The BCA welcomes this review by the Australian Energy Market Commission, requested by the Ministerial Council on Energy, on the implications of climate change policies for energy market frameworks.

The Business Council of Australia supports the introduction of an emissions trading scheme in Australia and notes the potential to provide many opportunities, including the development and deployment of low carbon technologies, new employment opportunities and the development of a new financial market and financial instruments to underpin the trading in permits.

The BCA has also however highlighted that the implementation of the Carbon Pollution Reduction Scheme (CPRS) in Australia ahead of our competitors will require careful management as we will be doing this in the absence of a global carbon price in the early years. Care must be taken to ensure there are appropriate policies in place during this interim period.

As the review scoping paper points out, both the CPRS and the Renewable Energy Target (RET) will have "large and direct impacts on the energy markets". These impacts in turn have important implications for the performance of the broader economy. It will be critical to ensure that the national energy market objectives for efficient investment in and use of energy continue to underpin market rule-setting into the future and not be unduly compromised by the introduction of climate change policies. This is consistent with climate change policy principles that encourage emissions abatement at least cost to the Australian economy.

The BCA submission addresses two core elements of the review:

- Potential impacts of climate change policies on energy markets outcomes
- The implications of the introduction of the Carbon Pollution Reduction Scheme (CPRS) and Renewable Energy Target (RET) for energy market objectives and policy frameworks

We have drawn upon previous work by the BCA including our *Modelling Success* paper and submissions to the Green Paper review and the Wilkins review.

# Potential impacts of climate change policies on the energy sector

The BCA submission in response to the Carbon Pollution Reduction Scheme Green Paper, *Modelling Success: Designing an ETS that Works*, provided detailed research on the likely impact of the introduction of an emissions trading scheme on trade-exposed and emissions-intensive industries and electricity generation. It included a set of recommendations on how best to introduce the CPRS and minimise the risk of unintended consequences during the early years of the scheme, whilst putting Australia on the path to contributing to global emissions reduction through to 2050.

*Modelling Success* included a comprehensive analysis of the detailed National Electricity Market modelling done by ACIL Tasman and CRAI (commissioned by the ESAA and NGF respectively) on the electricity sector investment that will be required to ensure a shift to low-emission technologies and the potential impact of the introduction of the CPRS on electricity generation assets.

This analysis, undertaken for the BCA by Port Jackson Partners Limited (PJPL), highlighted major challenges related to:

- the scale of the sector's required contribution to emissions reduction;
- the efforts that will be required to bring forward low-emission technologies;
- creating an environment where there is investor (equity) and financier (debt) confidence; and
- the potential impacts of electricity asset impairment due to the change in Government policy.

Given its role in emissions generation the electricity sector will need to play its part in achieving any emissions reduction. There is, however, a physical limit to the maximum rate at which the electricity sector can reduce its emissions. For example, achieving a 10 per cent reduction in emissions from 2000 levels by 2020 would be extremely challenging for the electricity sector. Such a reduction is, in effect, a reduction in emissions of 34 per cent from business-as-usual levels by 2020.

Modelling and estimates suggest a 10 per cent emission reduction would require expenditure of \$4 billion per year – a near-doubling of investment in new generation and transmission lines, compared with recent levels.

The PJPL report confirms that not only will substantial investments be required to transition Australia's electricity generation to low-emission technologies, but also that many low emission technologies are still under development and will not be available to any substantial degree until after 2020.

Under the most credible scenarios for capacity growth to meet a ten per cent reduction in 2000 emissions levels by 2020, the PJPL report identifies that:

- Gas use for electricity would likely need to approximately triple. This will require significant development of undeveloped and, as yet, undefined Bass Strait reserves as well as an expansion of large-scale gas infrastructure and reliance on Queensland Coal Bed Methane which has an alternate global market.
- Installed wind generation capacity must rise approximately sixfold. New wind generation must be built at a rate of 600 megawatts per year.
- At least 1350 megawatts of geothermal energy must be built, although this technology has not yet been fully demonstrated on a commercial scale in Australia.
- More than 500 megawatts of biomass capacity must be built, although biomass generation has failed to grow in recent years.
- More than 1000 megawatts of concentrated solar or carbon capture and storage (CCS) facilities must be built, although neither technology is currently in production and CCS may not become viable by 2020.
- The heavy reliance on gas and wind creates major risks to supply:
  - Many of the gas fields we assume will contribute to the solution are yet to be fully developed.
  - Many potential wind generation sites are yet to secure planning approval and are distant from the grid, creating supply and reliability risks.

Clearly, this scenario reveals a substantial reorientation of Australia's energy sector into new and in many cases unproven energy sources over the space of a relatively short time period. Change of this order needs to be carefully considered particularly in respect of the timing and quantum of emission reductions required from the electricity sector. We question both the ability to physically make the necessary infrastructure investments and given the recent turmoil in global financial markets the ability (at least in the near term) for these investments to obtain the necessary level and cost of funding. If the CPRS is implemented in a manner which does not reflect these factors we face a major risk of electricity supply disruption and other significant impacts which are discussed later in this submission.

## Implications for energy market frameworks

This review by the AEMC is therefore a timely consideration of the implications of the introduction of carbon change policies on the effective operation of energy markets under national energy market rules.

The BCA supports the core principles that underpin the energy market rules set by AEMC, broadly, to promote the efficient investment in, and efficient use of, electricity and gas services and to promote the reliability, safety and security of electricity and gas supply.

These principles have been agreed by all governments and are reflected in the National Electricity Law and the National Gas Law. The development and implementation of these principles has been a highly successful example of intergovernmental cooperation to deliver economic reform in the national interest.

The BCA supports the continuation of the national gas and electricity objectives as the key determinant of market rule-setting following the introduction of climate change policies.

In the BCA's strategic framework for emissions trading we have also called for climate change policies that promote abatement which is lowest cost and which provide investment certainty to enterprises and investors. We see these principles as consistent with the national gas and electricity market objectives.

The AEMC review panel will consider the potential effect of the introduction of the CPRS and the RET policies on the continued application of the national energy market objectives. As mentioned earlier, these proposed policies will have "large and direct impacts on the energy markets".

The CPRS is a market-based policy which establishes price signals to encourage switching away from emissions intensive production. As such, the CPRS should be able to be implemented so that it does not compromise the efficient operation of energy markets per se, although there will be implications for production efficiency as new production technologies that are at different stages of development are introduced.

There may, however, be a need to more closely consider the implications on the security and reliability of supply, depending on the trajectory of the carbon price and the degree of structural change that it will drive in the sector (as mentioned in the previous section).

With regard to the RET, there are likely to be challenges for meeting both the efficiency and security objectives of energy markets as more rigid restrictions on production possibilities are being imposed on the sector. The BCA has called for the RET to be removed upon the introduction of the CPRS (see below).

We have set out below some of the more significant impacts that we think the introduction of climate change policies may have on the operation of energy markets and which we recommend that the AEMC pay special consideration to in its review. In summary they are:

- the effects on incentives for energy investment to meet the demands of a growing economy
- the risk from potential asset impairment on the reliability and security of supply and its impact on creditworthiness and the overall stability of the NEM
- the potential volatility in conditions for investment and energy service provision as a consequence of the governance arrangements regarding future emission cap setting under the CPRS
- the potential volatility in energy markets due to fluctuations in the price of carbon and the importance of being able to pass this additional cost through to the electricity price (frustrated by State-based regulation)

• The potential impact of the RET policy on reliability of supply, and the viability of an energy-only market when the renewables replace energy but not capacity. Also the impact of renewables on the cost of energy, including the hidden costs of infrastructure to support them.

#### A supportive investment environment

Clearly, success in reducing emissions from electricity will require an environment where local and international investors (equity sponsors and financiers) are confident that they can achieve reasonable returns for the substantial investment that is required. Typically, these are assets with long lives and investments in the sector will be viewed over a 25 to 30 year time frame.

If these requirements are to be met, Australia will need electricity price signals to be transmitted as clearly as possible. Measures required include removing all retail electricity price caps so retail electricity prices rise fully to reflect the increased cost of supply and retailers are not put in a position of financial distress as a result of an imposed price cap which renders the retailing of electricity, gas and/ or renewable products unprofitable.

The CPRS should attain a least cost solution for emission abatement. This being the case then the renewable energy obligations should be gradually phased out (BCA analysis has already demonstrated it is an expensive solution) and therefore allow the CPRS market to determine the most cost-effective solution.

If an emissions trading scheme was implemented treating the electricity sector as advocated by the Garnaut Report then it is highly likely that multiple brown and black coal electricity generation facilities will have to be rapidly re-valued and written down (an estimated \$12 billion of debt and equity is expected to be affected). Some of the potential impacts of this include:

- Inability to refinance debt for a number of existing power plants already in evidence
- Reduced supply reliability as capital expenditure on maintenance is curtailed and / or plants are retired earlier than originally planned
- Multiple disputes as investors seek re-address against the change in environmental law

- A reduction in contract liquidity due to creditworthiness and the impact of distress on generators and increased wholesale electricity price volatility as asset owners use the spot market rather than the contract market in an attempt to recover residual value over a shortened asset life
- Cascading credit issues across multiple market participants including generation, retail and consumers.

All these factors in turn will impact on supply reliability and increase the risk of electricity supply interruptions. Given the importance of the electricity sector and the necessary investment to transition to low-emissions electricity while maintaining supply, the BCA has recommended that the emissions trajectory to 2020 is set with appropriate recognition of what can be delivered by the electricity sector. Compensation should be considered for coal generators given their asset values will be significantly impaired.

#### Governance arrangements and the potential for market volatility

The BCA is concerned that there may be an unintended consequence in relation to governance arrangements for the CPRS in what is proposed - namely a substantial reduction in policy predictability and certainty.

This is particularly the case if Parliament is in the position of being able to disallow regulations which annually extend the 5 year fixed caps and every 5 years extend the gateways.

Consideration should be given to including in the enabling legislation the role of the Minister on these and other policy issues related to the operation of the CPRS; matters the Minister must consider in making determinations; and the nature of the directions the Minister can give the CPRS regulator. In determining the role and responsibilities of the regulator, consideration should be given to how best to use the regulator to assist in providing business certainty. There will also need to be recognition of the interaction of CPRS regulation and the AEMC over time. On a more general point there appears to be little work done to date on the interrelationship of the CPRS and NEM. This review should fill the gap.

A key concern for business, in making long term investments, will be the degree of forward knowledge on likely emissions caps and trajectories. The Green Paper is proposing a combination of mechanisms which will provide 5 years of fixed caps and ten year gateways. Such a duration may not be sufficient for major new investments which are typically viewed over a 25 to 30 year time frame.

The BCA has suggested that consideration should be given to either extending the forward knowledge to 20 years or for major capital investments - the use of a contract with government or other mechanism.

Similarly, a mechanism needs to be identified to address growth in the EITE sectors during the transition phase.

#### Potential permit price volatility particularly as a result of scheme design

The Green Paper approach to these important mechanisms in a fully functioning CPRS limits borrowing but allows unlimited banking of permits. Consideration should be given to removing the limits on borrowing to assist in smoothing aspects of price volatility, otherwise there is a risk of distortions to the permit price path.

However should there be an initial fixing of the permit price banking and borrowing would need to be deferred.

#### The BCA's position on the Renewable Energy Target (RET)

The key challenge in considering the RET policy is whether it will ensure Australia can achieve its emissions reduction in the most cost effective way. Whilst the RET may stimulate the development of renewable energy sources it remains unclear whether this will be done in the most economically efficient manner and whether it will bias the options for renewable energy expansion in a narrow manner. The implementation of the Australian emissions trading scheme should be the primary vehicle to achieve emissions reduction. Additional policies and programs should only be introduced to address a specific market failure not addressed through the emissions trading scheme. An assessment of the RET in light of these principles would suggest the RET policy should not be proceeded with.

If it is to be implemented it will be difficult to determine the quantum of renewable energy required and therefore the annual targets without the modelling of the impact of emissions trading on energy consumption.

The BCA has noted that both the RET discussion paper and the federal government's green paper have not addressed the impact of a RET on EITEIs and what arrangements will be considered. In the absence of the supplementary paper on EITEIs which the department has indicated is forthcoming it is worth noting some key issues. At a minimum should the RET proceed the approach will need to be equivalent to that which has been taken in both the Victorian and NSW State schemes i.e. the amount of electricity consumed by emissions-intensive, trade-exposed industry should be netted out from total electricity consumption and excluded from the assessment of parties liable to meet the annual RET targets. Such an approach will assist in managing the impact and not lead to an increased burden on other businesses, other than that related to the price impact.

Should the government proceed with implementation of the RET then a clear strategy for the conclusion of this policy at the earliest time should be identified as part of the final design detail. A key element of such an approach should be the alignment of the RET penalty price with the emissions trading permit price from the commencement of the emissions trading scheme.

### Conclusions

This review by the AEMC is a timely consideration of the implications of the introduction of carbon change policies on the effective operation of energy markets under national energy market rules.

Recent work by the BCA and PJPL supports the contention by the AEMC that the introduction of the CPRS and RET will have a significant impact on energy markets.

The BCA supports the continuation of the national gas and electricity objectives as the key determinant of market rule-setting following the introduction of climate change policies.

Some of the key areas where we see particular challenges for AEMC in meeting these objectives as are in the effects on incentives for energy investment to meet the demands of a growing economy, the risk from potential asset impairment on the security of supply, and the potential volatility in conditions for investment and energy service provision as a consequence of the design of the schemes and the trajectory of the carbon price.