Chapter 6

The Carbon Pollution Reduction Scheme and Australia's Energy Supply

Introduction

6.1 The committee received evidence regarding the impact of the proposed Carbon Pollution Reduction Scheme (CPRS) on coal-fired electricity generators. The committee also heard evidence of the anticipated impact of the CPRS on needed investment in energy infrastructure and the impact of the CPRS on energy supply.

Impact of the CPRS on power generators

Electricity Sector Adjustment Scheme

6.2 As outlined in chapter 5, the CPRS includes assistance for coal-fired electricity generation through the Electricity Sector Adjustment Scheme (ESAS), even though it is not considered to be trade exposed.

6.3 The National Generators Forum (NGF), which represents over 95 per cent of the Australian electricity generation market,[1] argued:

> The challenge to the energy sector is the efficient transformation of the industry to a low carbon future. When considering the magnitude of this challenge it is important to highlight that, for the electricity generation sector alone, the reduction in asset values associated with the CPRS are expected to be in the order of $A10 billion to $A20 billion based on NGF modelling. The requirement for new investment in electricity generation capacity is expected to be in the order of $30 billion to satisfy expected growth and demand on a business as usual basis…
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> The purpose of transitional assistance is to ensure energy sector investors, existing and new, large and small, are financially able and willing to make the investments necessary to achieve an efficient transition in the face of these challenges. Fundamentally, transitional assistance ought to avoid financial impairment of existing generation assets and their owners. It should avoid sovereign and regulatory risk and the associated costs facing new assets and their owners. It must minimise risks to security and reliability of supply in the national electricity market and, ultimately, must maximise the cost-effectiveness of the CPRS and achieve its policy objectives…
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> There are critical transitional issues not adequately addressed in the white paper. The NGF supports the establishment of an Electricity Sector

1 Mr John Boshier, Executive Director, National Generators Forum (NGF), *Committee Hansard*, 2 February 2009, p. 2.

> Adjustment Scheme or ESAS. However, the quantum of assistance is significantly lower than the amount required to achieve the government's policy objectives…
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> …The government must ensure that the assistance to coal fired generators is commensurate with asset value loss to avoid creating regulatory risk. This loss damages existing businesses and will therefore threaten future investment.[2]

6.4 Similar arguments were put by the Energy Supply Association of Australia (ESAA):

> ESAA welcomes the government's recognition in the white paper that coal-fired generators will be strongly affected by the CPRS and that to ameliorate this risk of adversely affecting the investment environment the government should provide direct assistance to existing coal-fired generators…However, insufficient assistance in the transition to the CPRS could have serious implications for the short-term viability of the electricity markets due to the financial distress of a number of generators.[3]

6.5 Mr Shane Cremin, the Market Development Manager from Griffin Energy, also expressed concerns about the ESAS:

> …the transition from what is an inherently high-emission-intensive economy to a low one takes a fair bit of time and so the policy settings around those transitions, we feel, are not adequately addressed in the white paper, and specifically in the Electricity Sector Adjustment Scheme.[4]

6.6 As discussed in chapter 4, electricity generators raised concerns regarding the Department of the Treasury modelling report, *Australia's Low Pollution Future: The Economics of Climate Change Mitigation* (Treasury modelling), with respect to the impact of the CPRS on the value of existing assets. The NGF argued that the assistance provided to generators should be derived 'using more conservative modelling and assumptions'[5] and that 'the government must ensure that the assistance to coal fired generators is commensurate with asset value loss to avoid creating regulatory risk.'[6]

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2 Mr Boshier, NGF, *Committee Hansard*, 2 February 2009, pp 2-3.

3 Ms Clare Savage, Acting Chief Executive Officer, Energy Supply Association of Australia (ESAA), *Committee Hansard*, 2 February 2009, p. 17.

4 Mr Shane Cremin, Market Development Manager, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 3.

5 Mr Boshier, NGF, *Committee Hansard*, 2 February 2009, p. 4.

6 Mr Boshier, NGF, *Committee Hansard*, 2 February 2009, p. 4.

6.7 While the assistance provided under ESAS is for the first five years of the scheme,[7] both the NGF and the ESAA argued that the assistance should be provided over a much longer period.[8]

6.8 Griffin Energy, which 'is developing a portfolio of generation assets within the isolated WA market',[9] argued 'that the position of the white paper regarding the Electricity Sector Adjustment Scheme is inadequate to achieve this outcome'[10] and is 'biased towards those plants with much higher emissions'.[11]

6.9 The ESAA described the likely impact of the CPRS on the electricity generation sector if there are no changes to the proposed compensation:

> esaa considers that the adverse impacts of insufficient assistance for the sector will be two-staged. Firstly, in the short-term existing generators may suffer financial distress, compromising the viability of the electricity markets. Secondly, future investment in the sector is likely to attract a higher risk premium, imposing greater costs on electricity consumers in the long-term.
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> Insufficient assistance in the transition to the CPRS could have serious implications for the short-term viability of the electricity markets due to the financial distress of a significant number of generators.[12]

6.10 The committee also received some evidence noting that the proposed assistance to electricity generators is too generous. For example, the Curtin University of Technology argued that power companies should not receive any compensation, as 'such payments will undermine the integrity of the concept of the polluter-pays-principle.'[13] Professor Anthony Owen provided further explanation of this view:

> If you take the European Union's system as an example, there the compensation was complete. The power generators received free allocations. Immediately there was a transfer of wealth from the community to the power generators, because those allocations had a value—an opportunity cost—and so basically the power generators did not have any incentive themselves to reduce emissions, simply because they were completely compensated.

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7 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future- White Paper*, December 2008, p. xxxix.

8 Mr Boshier, NGF, *Committee Hansard*, 2 February 2009, p. 4; Ms Savage, ESAA, *Committee Hansard*, 2 February 2009, p. 17.

9 Mr Cremin, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 2.

10 Mr Cremin, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 2.

11 Mr Cremin, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 6.

12 Energy Supply Association of Australia, answer to question on notice, 2 February 2009 (received 13 February 2009).

13 Curtin University of Technology, *Submission 38*, p. 1.

> The Kyoto protocol is 10 years old now. An emissions-trading scheme has been clearly coming for 10 years, if not more. They have had enough time to get their house in order. In any case, I doubt if there will be a great short-term impact on most of the power generators. The brown-coal generators may be the exception, but because it requires a vast amount of investment in order to switch technologies, I suspect most of the power sector will be able to live quite comfortably with it.[14]

6.11 The Construction, Forestry, Mining and Energy Union also argued that there should be no compensation, or tied compensation, to power generators:

> …we support the Ross Garnaut view that compensation to power generators in general is not warranted. First, we do not think that compensation will achieve any emissions reduction at all, so it is wasting the revenue from the emissions trading scheme; it is not achieving emissions reduction. Second, we do not think that compensation will affect the decisions of those power companies as to whether or not they should keep the coal-fired power stations running.
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> We think there is a strong risk of the generators simply taking the money and running. If there is to be compensation for generators it is our view that it needs to be tied to reinvestment plans so that those power generators are simply not trousering the money for their shareholders but they are repositioning the industry for the long term.[15]

Infrastructure requirements

6.12 The committee received evidence of the need for investment in energy infrastructure to maintain energy supply, particularly given the anticipated increasing demand over coming years. It was argued that the amount of investment required will be greater as a result of the move to a low emissions economy. As discussed in chapter 2, there are difficulties integrating renewable energy into the grid, necessitating additional investment. This issue will be further explored in chapter 9.

Cost of investment

6.13 The Energy Networks Association argued that:

> $50 billion is what is required to modernise our infrastructure—
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> …
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> It will include both the ongoing investment that we would be making regardless of the CPRS. It will include the investment that we need to make as a result of climate change, peak year loads and greater air conditioning demand. Also embedded in the total amount that we have to spend will be a

14 Professor Anthony Owen, Energy Economics, Curtin University of Technology, *Committee Hansard,* 17 November 2008, p. 42.

15 Mr Peter Colley, National Research Director, Mining and Energy Division, Construction, Forestry, Mining and Energy Union, *Committee Hansard,* 19 November 2008, p. 113

> reconfiguration of our networks to cope with the change in the distribution of generation as a result of climate change policies.[16]

6.14 The ESAA outlined the investment required:

> The investment challenge for the energy supply sector, even without a carbon pollution reduction scheme or expanded renewable energy target is significant. We would expect that there would be an additional $13½ billion worth of investment in generation over the coming decade, with considerably more investment required in electricity and gas networks over the same period.
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> …
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> With both the CPRS and an expanded renewable energy target, that investment challenge for our sector increases threefold, with over $33 billion in generation investment required over the coming decade and significant new investment required in network infrastructure.[17]

Need for certainty for investment

6.15 Given the size of the investment required, the availability to attract investment is critical. Ms Clare Savage, the Acting Chief Executive Officer of the ESAA argued:

> Investor confidence is critical to the continued secure, safe and reliable supply of competitively priced electricity and gas. As you know, in recent years there has been much debate around whether or not costs should be applied to Australia's greenhouse gas emissions. Many commentators, including the Ministerial Council on Energy's Energy Reform Implementation Group have observed that the cloud of uncertainty has inhibited investment in the energy supply sector.[18]

6.16 As discussed in chapter 2, the committee received evidence highlighting the need for certainty in order to raise the capital for large scale investment. Mr Wayne Trumble, the Executive General Manager, Power Generation from Griffin Energy, made this point clearly: 'certainly certainty is paramount to the investments that we make. They are 40-year investments.'[19] The need for certainty is particularly relevant to the energy industry because of the long lead times involved in gaining approvals and undertaking construction.[20]

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16 Mr Andrew Blyth, Chief Executive Officer, and Mr Hugh Gleeson, Chief Executive Officer, United Energy Development, Energy Networks Association (ENA), *Committee Hansard*, 2 February 2009, p. 49.

17 Ms Savage, ESAA, *Committee Hansard*, 2 February 2009, pp 15 and 16.

18 Ms Savage, ESAA, *Committee Hansard*, 2 February 2009, p. 15.

19 Mr Wayne Trumble, Executive General Manager, Power Generation, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 8.

20 Mr Phil Southwell, General Manager, Strategy and Corporate Affairs, Western Power, *Committee Hansard*, 17 November 2008, p. 28.

6.17 The Australian Petroleum Production and Exploration Association explained that in relation to oil and gas projects 'Establishing and maintaining an economic framework that is conducive to investments of this magnitude is critical if the industry is to deliver the potential economic gains to Australia.'[21]

Domestic energy supply

6.18 The committee received evidence that the CPRS may lead to a reduction in the reliability of Australia's energy supply.

6.19 Western Power stated:

> …we recognise some significant challenges [in trying to reduce carbon pollution] and we must not lose sight of security. If we just go mindlessly down a path of trying to reduce the carbon without keeping that in mind, the public will not tolerate the lowering of reliability, I suspect, so we need to keep security in balance.[22]

6.20 The NGF argued that energy supply for the National Electricity Market (NEM) is expected to be secure for the first two to three years of the scheme, however may be less secure in the four to eight year period, when new entrants are expected to start to enter the market and some of the current generators potentially start to leave.[23]

6.21 The Australian Coal Association argued that the arrangements for captured coal mines[24] as currently set out in the White Paper may lead to interruptions to energy supply.

> While these mines would receive some assistance under the $750 million package, it is very small indeed and they would not be able to pass through their CPRS cost to power generators whom they supply because they are locked into 20-year contracts and there would be no cost pass-through of any description other than CPI permitted. In many cases they are very low-margin operations. Some of these would become financially non-viable. The implication is bankruptcy and closure.[25]

6.22 The Queensland Resources Council also raised captured coal mines as an issue for energy security 'On equity and energy security grounds, permits should be

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21 Ms Belinda Robinson, Chief Executive, Australian Petroleum Production and Exploration Association, *Committee Hansard*, 19 November 2008, p. 24.

22 Mr Southwell, Western Power, *Committee Hansard*, 17 November 2008, p. 30.

23 Mr Carlo Botto, Director, and Dr Paul Simshauser, Director, National Generators Forum, *Committee Hansard*, 2 February 2009, p. 11.

24 These are described as 'mines uniquely attached to power-generating plant'. Mr Burt Beasley, Acting Executive Director, Australian Coal Association, *Committee Hansard*, 2 February 2009, p. 59.

25 Mr Ralph Hillman, Executive Director, Australian Coal Association, *Committee Hansard*, 2 April 2009, p. 6.

allocated to captured coal mine owners where cost pass-through is restricted or unavailable.'[26]

6.23 Mr David Pearce from the Centre for International Economics argued that the CPRS could have an impact on energy supply because:

> …if you make it difficult for the energy sector to invest by having large transfers of resources out of the sector—through the purchase of permits, for example—that may have some implications for the ability of that sector to maintain the investments it needs, and that may have implications for energy security.[27]

Energy supply issues in Western Australia

6.24 As discussed in chapter 2, Western Australia is not connected to the NEM and therefore faces particular energy security challenges.

6.25 Griffin Energy argued that the 'white paper has not adequately addressed the issues unique to Western Australia.'[28] They explained their concerns regarding the CPRS increasing the pressure on energy security in Western Australia:

> …if, as a result of this policy, (1) that diversity is lessened as a result of coal being disincentivised or (2) we do not provide incentive for—disincentivise, if that is a word—bankers to invest in our future requirement, we will ultimately find that we are short capacity in this energy island.[29]

6.26 Western Power argued that there are particular challenges for energy security in Western Australia:

> …there is another factor which needs to be taken into account in terms of supply within the state, and that is security. With just two dominant fuels, gas and coal, if you get too much of one and not enough of the other, then you are relying heavily on that. Currently we only have a single gas pipeline from the north-west. If that fails, it will be extremely significant for this state.
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> …
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> The challenges for a massive connection of renewables are bigger in this state than they are on the east coast and we will need to consider that especially.[30]

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26 Queensland Resources Council, *Submission 77,* [p. 5].

27 Mr David Pearce, Executive Director, Centre for International Economics, *Committee Hansard,* 2 April 2009, p. 35.

28 Mr Cremin, Griffin Energy, *Committee Hansard,* 18 February 2009, p. 2.

29 Mr Cremin, Griffin Energy, *Committee Hansard,* 18 February 2009, p. 5.

30 Mr Southwell, Western Power, *Committee Hansard,* 17 November 2008, pp 29 and 30.

6.27 Further, Griffin Energy argued that as a result of the CPRS, Western Australia:

> …will become that much more dependent upon gas as the main fuel for power generation…a 1,600-kilometre-long single point of failure is just too high a risk. It is too high a risk to have all of your economic activity hanging off the end of that long a pipeline. Again, if we look backwards at history, the loss of 30 per cent of our gas supply, when it represents only 60 per cent of our installed capacity, has a net effect of a $3.6 billion hit to the economy of Western Australia, as estimated by the CCI. If you increase that percentage and have the same kind of incident—which we will have at some point—then that number just continues to get bigger.[31]

Committee comment

6.28 The committee is of the view that future energy security needs have not been afforded a sufficiently high priority in the consideration of policies to reduce carbon emissions. Particularly, given the impact of the proposed CPRS on future investment in energy infrastructure and the long lead times involved.

6.29 The committee considers that the Treasury assumption of a seamless transition in Australia's energy supply arrangements is completely unrealistic. Much more needs to be done to ensure Australia's energy security is not jeopardised as a result of the implementation of a badly designed CPRS.

6.30 The committee considers that the design of any Australian emissions trading scheme should be informed by and be consistent with the policy settings of an overall strategic energy policy framework.

Recommendation 11

6.31 The committee recommends that the government conduct a thorough review of:

a. Australia's future energy needs and how the proposed CPRS will impact on future energy supply across Australia;

b. The necessary transitional arrangements for the energy supply industry, given the potentially significant impact of the CPRS on the economic viability of the energy industry's very capital intensive enterprises, and the impact on Australia's energy security should one or more of the electricity generators fail; and

c. The expected impact of the proposed CPRS on energy security in Western Australia given the unique circumstance of that state as it is not part of the National Electricity Grid.

31 Mr Trumble, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 8.