

The Senate

Select Committee on
Fuel and Energy

The CPRS: Economic cost without
environmental benefit

Interim Report

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List of Abbreviations

AAC	Australian Aluminium Council
ABARE	Australian Bureau of Agricultural and Resource Economics
ACA	Australian Coal Association
ACF	Australian Conservation Foundation
ACOSS	Australian Council of Social Service
ACT	Australian Capital Territory
AIGN	Australian Industry Greenhouse Network
APPEA	Australian Petroleum Production and Exploration Association
AWU	Australian Workers' Union
CCI	Chamber of Commerce and Industry of Western Australia
CCS	Carbon capture and storage
CDM	Clean Development Mechanism
CFMEU	Construction, Forestry, Mining and Energy Union
CIE	Centre for International Economics
CO ₂	Carbon dioxide
CO ₂ -e	Carbon dioxide equivalent
Committee	Senate Select Committee on Fuel and Energy
CPRS	Carbon Pollution Reduction Scheme
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CUT	Curtin University of Technology
EITE	Emissions intensive trade exposed
ENA	Energy Networks Association

ESAA	Energy Supply Association of Australia
ESAS	Electricity Sector Adjustment Scheme
ETS	Emissions trading scheme
EU	European Union
EU ETS	European Union emissions trading scheme
GFC	Global financial crisis
GHG	Greenhouse gas
Green Paper	<i>Carbon Pollution Reduction Scheme: Green Paper</i>
Hon.	Honourable
IEA	International Energy Agency
Labour Council	South Coast Labour Council
LNG	Liquid natural gas
LPG	Liquefied petroleum gas
MCA	Minerals Council of Australia
MLA	Member of the Legislative Assembly
MRET	Mandatory Renewable Energy Target
NEM	National Electricity Market
NFF	National Farmers' Federation
NGF	National Generators Forum
NSW	New South Wales
OECD	Organisation for Economic Cooperation and Development
ppm	Parts per million
PPP	Public Private Partnership
RACQ	Royal Automobile Club of Queensland
RET	Renewable Energy Target

Treasury	The Department of the Treasury
Treasury modelling	<i>Australia's Low Pollution Future: The Economics of Climate Change Mitigation</i>
UK	United Kingdom
US	United States
WASEA	Western Australian Sustainable Energy Association
White Paper	<i>Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper</i>
WTO	World Trade Organisation

Glossary

Abatement

Reduction of greenhouse gas emissions, or removal of greenhouse gas from the atmosphere by sinks.

Activity

The chemical or physical transformation of inputs to a given set of outputs.

Afforestation

Planting of new forests on lands not recently forested. Under the Kyoto Protocol, afforestation is defined as the direct human-induced conversion to forested land of land that has not contained a forest for at least 50 years.

Allocation

Distribution of permits.

Auctioning

A method of allocating units in which government releases units into the market through an auction process.

Biochar

A charcoal product made through anaerobic combustion of biomass (for example, farm or wood waste) at high temperatures.

Cap and trade

An emissions trading regime in which a limit (or cap) is placed on the total emissions allowable from the activities or sources of emissions covered under the scheme. Tradeable emissions units are issued up to an amount equal to the cap.

Carbon capture and storage (CCS)

Technology to capture and store greenhouse gas emissions from energy production or industrial processes. Captured greenhouse gases have the potential to be stored in a variety of geological or ocean sites.

Carbon dioxide (CO₂)

A naturally occurring gas; it is also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes.

Carbon dioxide equivalent (CO₂-e)

A standard measure that takes account of the different global warming potential of different greenhouse gases and expresses the cumulative effect in a common unit.

Carbon leakage

The effect when a firm facing increased costs in one country due to an emissions price

chooses to reduce, close or relocate production or to close or relocate production to a country with less stringent climate change policies.

Carbon price/ carbon cost

The cost of emitting carbon into the atmosphere.

Clean Development Mechanism (CDM)

A flexibility mechanism under the Kyoto Protocol that allows developed countries to meet part of their obligation to reduce emissions by undertaking approved emissions reduction projects in developing countries. Emissions reductions under the CDM can create tradable permits offset credits, called certified emission reductions or CERs.

Cogeneration

The simultaneous production of electricity and heat using a single fuel, such as natural gas. The heat produced from the electricity generating process is captured and utilised to produce steam.

Coverage

The scope of an emissions trading scheme. Sources of emissions covered under the scheme are liable for their emissions.

Emissions

The release of greenhouse gases into the atmosphere.

Emissions intensive industries

Industries that produce significant emissions during their production processes and are therefore assessed to have an emissions intensity above a defined threshold.

Emissions trading

A market-based approach to reducing emissions that allows entities with excess emissions units to trade those emissions units with other entities. In general, trading can occur at the domestic, international and intra-company levels. International emissions trading constitutes one of the Kyoto flexibility mechanisms.

Fugitive emissions

Greenhouse gases that are released in the course of oil and gas extraction and processing, through leaks from gas pipelines, and as waste methane from black coal mining.

G Cubed model

A computable general equilibrium model of the global economy developed by Professor Warwick McKibbin and Associate Professor Peter Wilcoxon. The model's design makes it especially useful for analysing international environmental and trade policy questions.

Greenhouse gas (GHG)

Any gas that absorbs infrared radiation in the atmosphere. This property causes the

greenhouse effect. The term ‘greenhouse gases’ in this report relates to those gases covered by the Kyoto Protocol, which are carbon dioxide, nitrous oxide, methane, sulphur hexafluoride, perfluorocarbons (PFCs) and hydrofluorocarbons (CHFCs).

Low emissions technology

Technology which produces a product with minimal greenhouse gas emissions.

Mitigation

A reduction in the source of, or enhancement of the sinks for, greenhouse gases.

National Electricity Market (NEM)

Wholesale market for the supply of electricity to retailers and end-users in the interconnected regions of Queensland, New South Wales, the Australian Capital Territory, Victoria and South Australia. The NEM does not include Western Australia. It began operating in December 1998. Tasmania joined in 2005.

Permit

A certificate created under an emissions trading scheme that enables the holder to emit a specified amount of greenhouse gases, generally one tonne of carbon dioxide equivalent.

Renewable Energy Target (RET)

A national Renewable Energy Target scheme places a legal obligation on parties who buy wholesale electricity (retailers and large users) to source a certain percentage of their electricity purchases from renewables based generation. The annual targets are legislated in gigawatt-hours of electricity. Liable parties can demonstrate compliance with the scheme by acquiring and surrendering to the scheme regulator tradeable renewable energy certificates created by accredited renewable energy generators.

Stationary energy emissions

Includes emissions from fuel consumption for electricity generation, fuels consumed in the manufacturing, construction and commercial sectors, and other sources such as domestic heating.

Trade exposed industries

Industries which export or compete against imports and have their product prices set by world markets. These industries are therefore constrained in their ability to pass through carbon costs due to actual or potential international competition.

Recommendations

Recommendation 1

2.206 The committee recommends that the government reconsider its proposed approach to how Australia can best contribute to a reduction in global greenhouse gas emissions.

Recommendation 2

2.207 The committee recommends that any Australian emissions trading scheme be designed such that it encourages:

- (a)** economic activity and growth in Australia which helps reduce overall global greenhouse gas emissions, even if it means an increase in domestic emissions;
- (b)** Australian businesses operating at world's best environmental practice in terms of their level of domestic emissions, rather than to disadvantage them compared to any less environmentally friendly overseas competitors.

Recommendation 3

2.208 The committee recommends that the government assess and more properly explain publicly the advantages and disadvantages of all the policy and design options aimed at reducing global greenhouse gas emissions that have been raised so far.

Recommendation 4

2.209 In particular, the committee recommends that before any Australian emissions trading scheme is implemented, the government demonstrates much more clearly than it has so far, how it will be:

- (a)** environmentally effective – that is how it will help reduce global emissions;
- (b)** economically responsible – that is it will not put more Australian jobs at risk for no environmental gain; and
- (c)** mindful of Australia's energy needs into the future – that it will not put Australia's energy security at risk.

Recommendation 5

3.144 The committee recommends that the CPRS as currently designed not be proceeded with.

Recommendation 6

3.145 The committee recommends that the Commonwealth Government commit to design a more appropriate scheme for Australia, which will be more effective in helping to reduce emissions globally and which will be more economically responsible.

Recommendation 7

4.114 The committee recommends that the Senate not consider any legislation to give effect to the government's proposed CPRS until the government has fully complied with the relevant order of the Senate of 11 March 2009 and has released all of the information currently being kept secret.

Recommendation 8

4.115 The committee recommends that the government direct the Department of the Treasury to undertake and publish modelling of the impact of the proposed CPRS:

- (a) assuming little or no action by Australia's major competitors to reduce greenhouse gas emissions;
- (b) taking account of the economic conditions due to the global financial crisis;
- (c) on industry at a sectoral level, including the effective rates of compensation to industry;
- (d) on regional areas of Australia; and
- (e) in comparison with modelling of a variety of viable alternative policy scenarios aimed at Australia contributing to the reduction of greenhouse gas emissions.

Recommendation 9

5.114 The committee recommends that the CPRS EITE assistance measures:

- (a) be reviewed to consider providing assistance on a production basis;
- (b) be maintained at commencement levels until Australia's major competitors face comparable carbon costs; and
- (c) not exclude the coal mining industry.

Recommendation 10

5.115 The committee recommends that recognition should be given to those industries that contribute to a global reduction in emissions, such as LNG.

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.

Recommendation 12

7.86 The committee recommends that the government conduct a proper assessment of the impact of its proposed CPRS on levels of employment, to assess levels of employment as a 'modelling result' rather than including employment levels as a 'modelling assumption'.

Recommendation 13

7.87 The committee recommends that before legislation to introduce the proposed Carbon Pollution Reduction Scheme is passed, the government conduct a more comprehensive assessment of the impact of the proposed CPRS on individual states and regional economies to ensure the scheme, including compensation arrangements, is structured so that particular states and regions are not disproportionately and unfairly impacted.

Recommendation 14

7.88 The committee recommends that the government properly inform the community how the scheme will impact them and advise of actions they can take to reduce the cost impost of the scheme.

Recommendation 15

9.60 The committee recommends that the development of emission abatement or reduced emissions technologies be encouraged and facilitated, not constrained as they will be under the proposed CPRS. Consideration should be given by government to providing tangible recognition to businesses operating at world best practice levels.

Recommendation 16

9.61 The committee recommends that incentives be provided to encourage research and development of second generation biofuels.

Recommendation 17

9.62 The committee recommends that the Commonwealth and state governments remove restrictions on the mining and exporting of uranium.

Recommendation 18

9.63 The committee recommends that the Commonwealth Government explore the feasibility, advantages and disadvantages of producing nuclear power in Australia, as a means of reducing domestic emissions and providing energy security for Australia into the future.

Chapter 1

Terms of reference

1.1 On 25 June 2008, the Senate established the Senate Select Committee on Fuel and Energy (the committee) to inquire into and report on the impact of higher petroleum, diesel and gas prices and several related matters.

1.2 The full terms of reference for this inquiry are extensive and can be found at appendix 1. As the terms of reference are broad, the committee has decided to report in stages. This interim report addresses the following part of the inquiry's terms of reference:

- (d) the impact of an emissions trading scheme on the fuel and energy industry, including but not limited to:
 - (i) prices,
 - (ii) employment in the fuel and energy industries, and any related adverse impacts on regional centres reliant on these industries,
 - (iii) domestic energy supply, and
 - (iv) future investment in fuel and energy infrastructure;

Conduct of the inquiry to date

1.3 The inquiry was advertised in *The Australian* and details of the inquiry were placed on the committee's website. The committee invited submissions from a wide range of interested organisations, government departments and individuals, and continued to accept submissions throughout the inquiry. To date, the committee has received 90 submissions, and these are listed at appendix 2.

1.4 The committee held 12 public hearings in Perth, Canberra, Melbourne, Sydney, Brisbane, Wollongong, Mackay and Gladstone. Details of the public hearings including a list of the witnesses who gave evidence are provided in appendix 3.

1.5 The committee also undertook three site visits. On 1 April 2009, the committee visited the Futureworld National Centre for Appropriate Technology's Eco-Technology Centre in Wollongong, New South Wales. The Centre hosts a series of demonstrative displays, which exhibit renewable energy technologies and methods for energy and water conservation. On 6 April 2009, the committee visited Mackay Sugar Limited's Racecourse Sugar Mill in Mackay, Queensland, to observe how waste from sugar production is used as a renewable fuel to generate the energy required to run the mill. The committee also visited the NRG Gladstone Power Station, in Gladstone, Queensland, on 7 April 2009 to gain a practical understanding of the process of power generation and discuss how an emissions trading scheme (ETS) might affect the power station's operations.

1.6 Following the release of the Australian Government's *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper* (the White Paper), the committee also decided to pose a number of written 'Questions on Notice' to state and territory governments, regional organisations and local governments, and submitters and witnesses, to determine their views on the White Paper.

1.7 In December 2008, following the release of the Department of the Treasury's modelling report *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, the committee commissioned an independent consultant, Dr Brian Fisher of Concept Economics, to undertake a peer review of Treasury's modelling. The report, *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions* was completed on 30 January 2009, and is available on the committee's website. The findings of this report are discussed at chapter 4.

Background to the inquiry

The Kyoto Protocol

1.8 The Kyoto Protocol, an international agreement setting legally binding greenhouse gas emissions reduction targets for developed countries, was adopted on 11 December 1997, and entered into force on 16 February 2005. While developing countries can sign up to the Protocol, they are not subject to the legally binding targets.¹

1.9 The Protocol allows countries to determine the national policies and measures they implement domestically to meet their emissions target. The Protocol does not dictate the mechanisms that countries must implement to reduce emissions, though it does provide an indicative list of policies and measures for consideration. It also sets out three mechanisms which may assist countries in achieving their targets. The Kyoto mechanisms are:

- The Clean Development Mechanism, which allows a country to implement emission reducing projects in developing countries, or to absorb carbon through afforestation or reforestation, thereby earning the country certified emission reduction credits which can be counted towards meeting its Kyoto target.
- The Joint Implementation Mechanism, which allows a country to implement an emission-reducing or emission-removing project in the territory of another country which is party to the Protocol, and count the emission reduction units towards its own Kyoto target.

1 Nina Markovic and Nick Fuller, *Climate change negotiations*, Parliamentary Library Background Note, 26 August 2008, updated 2 October 2008. (accessed 15 April 2009).

- Emissions trading, which allows countries with unused emissions units² to sell any excess emission capacity, or units, to countries which have exceeded their targets.³

1.10 Australia signed the Kyoto Protocol on 24 April 1998, but did not ratify it until 12 December 2007. Under the Protocol, Australia is committed to reduce its average annual greenhouse gas emissions to 108 per cent of 1990 emissions, over the 2008-2012 commitment period.⁴ Australia is on track to meet that target.⁵

1.11 Negotiations on a successor to Kyoto are due to be completed in late 2009 at the United Nations Climate Change Conference in Copenhagen. To be seen to be 'leading by example', the Rudd Government committed to a 60 per cent reduction below 2000 emissions levels by 2050, and a medium term reduction of between 5 per cent and 15 per cent below 2000 levels by 2020.⁶

1.12 In a further change in approach announced on 4 May 2009, the government committed to a revised medium term emissions reduction target of up to 25 per cent, subject to the action taken by the rest of the world.⁷

Australia's emissions in context

1.13 According to the *Garnaut Climate Change Review: Final Report*, Australia is responsible for about 1.5 per cent of global greenhouse gas emissions.⁸ The bulk of Australia's emissions arise from energy and agriculture.⁹ Professor Ross Garnaut argued that Australia's high per capita levels of emissions from energy use are a result of the country's reliance on coal for electricity generation. He further argued that the high emission output from agriculture is due to the large numbers of sheep and cattle.¹⁰

2 Each country's Kyoto target is expressed as a level of permitted emissions. These emissions are divided into 'assigned amount units'.

3 Parliamentary Library, *The Kyoto Protocol*, Climate Change Web Publication, (accessed 24 November 2008); United Nations Framework Convention on Climate Change, *Emissions Trading*, (accessed 15 April 2009).

4 Parliamentary Library, *The Kyoto Protocol*, Climate Change Web Publication, (accessed 24 November 2008).

5 Australian Government, *Australia's Greenhouse Gas Emissions*, Fact sheet, December 2008, <http://www.climatechange.gov.au/whitepaper/factsheets/index.html> (accessed 25 April 2009).

6 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper*. December 2008, p. iv.

7 Department of Climate Change, 'Strengthening Australia's 2020 carbon pollution target', Fact sheet, May 2009.

8 Professor Ross Garnaut, *Garnaut Climate Change Review: Final Report*, 2008, pp 65 and 291.

9 The energy sector includes stationary energy, transport and fugitive emissions.

10 See Professor Garnaut, *Garnaut Climate Change Review: Final Report*, 2008, chapter 7.

1.14 An alternate view was put to the committee by Mr Daniel Price, the Managing Director of Frontier Economics, who argued 'The reason that Australia is one of the highest per capita emissions countries in the world is that we have very energy intensive industries here'¹¹. The South West Group argued that in considering the emissions profile of Australia, it is necessary to take into account the nature of the economy including exports. Mr Christopher Fitzhardinge, Director of the South West Group, explained:

The other area that I am concerned about is the approach that has been taken to energy policy that ranks Australians as being high energy users when the statistics refer to the embedded energy which is exported. Western Australia is a high user of energy per capita, but that is because 48 per cent of the state's GDP is exported, so what you have is a distortion of the energy landscape by attributing to residents a consumption when in fact there is embedded energy being exported which contributes to the health of Australia.¹²

1.15 In addition, the committee received evidence throughout the inquiry that some of the emissions produced in Australia ultimately contribute to reducing global emissions. These issues are further explored in relation to natural gas in chapter 5 and uranium in chapter 9.

The road to emissions trading

1.16 The committee notes that the ultimate objective in implementing the Carbon Pollution Reduction Scheme (CPRS) is to achieve a reduction in global greenhouse gas emissions. The committee has received a considerable amount of evidence indicating that emissions trading schemes are only as effective as their design allows, and each of the schemes discussed below have had significantly different features. Invariably, criticisms of the CPRS as proposed have not been criticisms of the emissions trading scheme approach in general. Rather they have been focussed on the poor design of the CPRS proposed by the Australian Government. Serious question marks have been raised regarding whether the scheme as proposed will actually contribute to the objective of reducing global greenhouse gas emissions and what its cost will be in terms of job losses, lost investment, the impact on regional areas and Australia's energy security into the future. This is explored further in chapters 3, 5, 6 and 7.

1.17 An ETS is only one of a number of possible approaches to address this objective. A series of alternative mechanisms to achieve emission reductions are discussed in detail in chapter 2.

11 Mr Daniel Price, Managing Director, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 12.

12 Mr Christopher Fitzhardinge, Director, South West Group, *Committee Hansard*, 17 November 2008, p. 89.

1.18 Emissions trading has been the subject of a number of policy processes in Australia over the years. All of these processes have focussed on the adoption of a cap and trade ETS.

1.19 In 2004, the National Emissions Trading Taskforce was established by the states and territories. The taskforce designed an ETS on the assumption that an Australian ETS would be based on a cap and trade approach.¹³ A discussion paper was published in 2006, and following a consultation process, the final report, *Possible design of a national greenhouse gas emissions trading scheme—Final framework report on scheme design*, was released in December 2007.¹⁴

1.20 The Prime Ministerial Task Group on Emissions Trading was established by the Coalition Government in December 2006 and released an issues paper for public comment on 7 February 2007. The *Report of the Task Group on Emissions Trading*, also known as the Shergold Report, was released in May 2007, and outlined a proposed Australian domestic ETS, as well as a set of complementary policies and measures.¹⁵

1.21 The Carbon Pollution Reduction Scheme is the current Australian Government's proposed design for a cap and trade emissions trading scheme.

1.22 When questioned recently about whether the CPRS as proposed in the exposure draft legislation is better than nothing, Professor Garnaut stated:

If there were no changes at all, I can only repeat what I said to Senator Macdonald, that it would be a line ball call, whether it was better to push ahead or say, 'We still want the ETS as the centre of our mitigation effort, but we'll have another crack at it and do a better one when the time is right.'¹⁶

What is emissions trading?

1.23 Under an emissions trading scheme, a level of allowable emissions is set, and then a number of tradeable permits up to that level, are issued. The number of tradeable permits issued is fixed to limit the total quantity of emissions that can be

13 Parliamentary Library, *National Reviews*, Climate Change Web Publication, (accessed 24 November 2008).

14 Dr Martin Parkinson, Secretary, Department of Climate Change, *Senate Standing Committee on Economics Committee Hansard*, 18 March 2009, p. 2.

15 Parliamentary Library, *National Reviews*, Climate Change Web Publication, (accessed 24 November 2008); Dr Parkinson, Department of Climate Change, *Senate Standing Committee on Economics Committee Hansard*, 18 March 2009, p. 2.

16 Professor Ross Garnaut, Senate Select Committee on Climate Policy, *Committee Hansard*, 16 April 2009, p. 56.

produced in a period. These permits can then be traded between emitters subject to certain rules.¹⁷

1.24 Organisations in the sectors included under an ETS will need to hold enough permits to cover their total emissions. Organisations whose emissions exceed the amount of permits they hold must purchase extra permits. Organisations which emit less than the amount of permits they hold can sell their excess permits. Alternatively organisations can hold onto surplus permits, speculating that their value will increase in the future. Organisations and sectors that can relatively efficiently reduce their emissions will then do so, whilst those that cannot reduce their emissions to the same extent may be obliged to buy extra permits. It is anticipated the financial services sector will also speculatively buy and sell permits.

Cap and trade approach

1.25 Under a cap and trade approach, an overarching cap on emissions is fixed, and is progressively reduced over time to achieve a long term emissions target. A number of permits equal to the set cap are created. Emitters then trade permits in a market to purchase additional permits to cover excess emissions, or to sell surplus permits.¹⁸

Current context

1.26 This inquiry has been conducted in the context of a constantly evolving policy environment. A series of key government documents have been released since the establishment of the committee, and the government has changed its approach both in terms of process and policy direction on a number of occasions.

1.27 All of the government's policy documents and announcements on the proposed CPRS up to 5 May 2009 have been taken into account in this inquiry.

1.28 On 17 March 2008, the Minister for Climate Change and Water, Senator the Hon. Penny Wong, announced the Australian Government's timetable for the introduction of emissions trading. Consultations on the design for a green paper were conducted from March to June 2008, culminating in the release of the *Carbon Pollution Reduction Scheme: Green Paper* (the Green Paper) on 16 July 2008. The Green Paper presented the government's initial proposals on the establishment of an Australian ETS.

1.29 Consultation on the Green Paper was undertaken from July to September 2008, and the White Paper was released on 15 December 2008. The White Paper addressed some of the concerns that were raised regarding the Green Paper, and outlined the Australian Government's medium term target to reduce Australia's

17 Leslie Nielson, *Emissions – who is trading what?*, Parliamentary Library Background Note, 15 August 2008, (accessed 15 April 2009).

18 Leslie Nielson, *Emissions – who is trading what?*, Parliamentary Library Background Note, 15 August 2008, (accessed 15 April 2009).

emissions by between 5 per cent and 15 per cent below 2000 levels by 2020. The White Paper is discussed in further detail in chapter 3.

1.30 On 30 September 2008, Professor Garnaut presented the *Garnaut Climate Change Review: Final Report*, which was commissioned by the then federal opposition and state and territory governments in 2007.¹⁹ The review was undertaken to investigate the likely economic and environmental impact of climate change and possible strategies to cut greenhouse gas (GHG) emissions.

1.31 The Department of the Treasury's modelling report *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, was released on 30 October 2008. This modelling explored the possible impacts of policies to reduce domestic GHG emissions on the Australian economy, based on the assumption of broad global agreement on emissions trading by 2020, and without taking the impact of the current and severe global economic downturn into account. The Treasury modelling is discussed in detail in chapter 4.

1.32 A further 'new' inquiry was referred by the Treasurer, the Hon. Wayne Swan MP on 12 February 2009, asking the House of Representatives Standing Committee on Economics to inquire into 'the choice of an emissions trading scheme as the central policy to reduce Australia's carbon pollution.' This inquiry was cancelled a week later by the Treasurer.

1.33 In the wake of the abandoned House of Representatives inquiry, the Senate Select Committee on Climate Policy was established on 11 March 2009, picking up and expanding on the terms of reference originally referred to the House of Representatives Standing Committee on Economics. The Senate Select Committee on Climate Policy's terms of reference direct it to examine: the choice of emissions trading as the government's central policy, possible complementary measures, emissions reduction targets, the effectiveness of the proposed Carbon Pollution Reduction Scheme itself and other related matters. The Select Committee on Climate Policy is due to report on 14 May 2009.

1.34 On 10 March 2009, the Australian Government released the exposure draft of the Carbon Pollution Reduction Scheme Bill 2009 and related legislation, inviting public comment. The exposure draft of this legislation was referred to the Senate Standing Committee on Economics on 11 March 2009 for inquiry, and the report was presented on 16 April 2009.

1.35 The legislation is due for introduction into Parliament in May 2009, with the stated intention originally to implement the scheme starting 1 July 2010.

1.36 On 4 May 2009, the Prime Minister announced some further changes to the proposed CPRS. These changes included a one year delay in the implementation of

19 Ms Amy Lomas, Assistant Director, Emissions Trading Unit, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 18 February 2009, pp 19-20.

the CPRS, a one year fixed price period and a revised 25 per cent emissions reduction target by 2020 'if the world agrees to an ambitious global deal to stabilise levels of CO2 equivalent at 450 parts per million or lower'.²⁰

1.37 The committee has considered the further changes announced by the government on 4 May 2009 and has concluded that they do not address the fundamental flaws of the scheme identified during this inquiry and outlined in this report.

Scope

1.38 The committee has conducted this inquiry with particular reference to the impact a proposed ETS may have on Australia's fuel and energy industry. This has necessitated an examination of how the government arrived at its current policy position, and how the impact on the fuel and energy industry would flow through the remainder of the economy.

1.39 In that context, the committee also reviewed the government's modelling and assumptions forming the basis of its policy positions.

1.40 As per the terms of reference, the committee focussed on how the scheme is likely to affect regional areas and how Australia's energy security may be affected.

Acknowledgement

1.41 The committee thanks those organisations, government departments and individuals who made submissions and gave evidence at the committee's public hearings. The committee would also like to express its appreciation to those who hosted the committee during its site visits.

Note on references

1.42 References in this report are to individual submissions as received by the committee, not to a bound volume. References to the committee Hansard from 2009 relate to the proof Hansard: page numbers may vary between the proof and the official Hansard transcript.

20 Australian Labor Party, 'A new target for reducing Australia's carbon pollution', Media statement, 4 May 2009.

Chapter 2

International and Domestic Context and Policy Options

Introduction

2.1 Chapter 2 provides background to the report and discusses the government's stated objectives regarding the Carbon Pollution Reduction Scheme (CPRS). It also examines the various policy options for achieving emissions reductions, the international and economic context surrounding the possible introduction of the CPRS and issues of energy security in Australia.

2.2 This chapter considers the CPRS in light of the government's stated environmental objectives. The committee has received a substantial body of evidence indicating that the CPRS does not effectively address the environmental challenge of reducing global greenhouse gas emissions, when what is needed is global action to reduce emissions. The committee notes there is, as yet, little evidence of an international agreement, and it is highly unlikely that the majority of Australia's main trade competitors will adopt a price on carbon.

2.3 The committee has also received evidence that if Australia focuses on its domestic emissions without taking a global approach to reducing emissions, there is a significant risk that approaches which will allow Australia to make the most effective contribution to reduce global emissions will be overlooked. Witnesses have noted that Australia must ensure that any action taken domestically does not worsen the global situation.

2.4 The committee notes that there is broad agreement that appropriate action must be taken to protect the environment. However, many witnesses have questioned whether the CPRS as currently proposed is the appropriate mechanism to address the environmental challenge that Australia and the rest of the world face. This chapter examines in some detail the various other policy options which exist to achieve emissions reductions.

Australian Government objective

Environmental objective

2.5 In the *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper* (the White Paper), the government recognises the Intergovernmental Panel on Climate Change's conclusion that the evidence of global warming is

'unequivocal' and that it is likely that the rise in global temperatures since the 1950's has been induced by human activity.¹

2.6 The government states that it accepts the finding of the *Garnaut Climate Change Review: Final Report*, that a stabilisation of atmospheric concentrations of greenhouse gases around 450 parts per million of carbon dioxide equivalent is in Australia's interests, and also accepts the judgement that global agreement on reductions of this proportion is unlikely in the near future.²

2.7 The government further states that:

Australia's international climate change objective is to contribute to a comprehensive global solution that will slow and ultimately reduce global greenhouse gas emissions to avert dangerous climate change. Australia has committed to playing its full and fair part in meeting that goal. In determining Australia's role, our domestic and international actions are both important.³

2.8 The government has defined 'playing its full and fair part' by setting targets for domestic emission reductions:

Australia's medium-term target range represents a minimum unconditional commitment to reduce Australia's emissions by 5 per cent below 2000 levels by 2020. It sets Australia on an immediate course to stop the growth of, and then reduce, our emissions by 60 per cent on 2000 levels by 2050. Should countries reach a global deal that includes commitments by all major economies (including key developing countries) to substantially restrain emissions and by all developed countries to take on comparable emissions reductions targets, Australia has committed to reduce emissions by up to 15 per cent below 2000 levels by 2020.⁴

2.9 The government further states that should effective global agreement emerge involving commitments from both developed and developing countries which are consistent with long term stabilisation of atmospheric concentrations of 450 parts per million of carbon dioxide equivalent or lower, Australia will establish appropriate post-2020 targets to contribute to more ambitious global action.⁵

2.10 The committee notes the evidence it has received which indicates that an effective global agreement is highly unlikely, as discussed later in this chapter.

1 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper (White Paper)*, December 2008, p. 2.1.

2 Australian Government, *White Paper*, December 2008, p. 3.2.

3 Australian Government, *White Paper*, December 2008, p. 3.1.

4 Australian Government, *White Paper*, December 2008, p. 3.2.

5 Australian Government, *White Paper*, December 2008, pp 3.2 and 4.1.

2.11 The committee notes that while the government has stated that Australia's objective is to contribute to a global solution, the government did not set a global emissions reduction target, only a domestic target. The committee is of the view that this approach may be counterproductive given that it will penalise industries that would do well under a global scheme and have the capacity to contribute to the reduction of global emissions.

2.12 Evidence presented to the committee questions whether the CPRS will effectively achieve the government's stated environmental objective. While this is initially addressed later in this chapter, more substantive discussion of this issue occurs in chapter 3.

Climate change policy

2.13 The Australian Government's climate change policy has been formulated on the basis of three 'pillars':

- Reducing Australia's carbon pollution;
- Adapting to unavoidable climate change; and
- Helping to shape a global solution.⁶

Reducing Australia's carbon pollution

2.14 As articulated in the White Paper, the government intends that Australia will meet its emission reduction objectives through a carbon pollution reduction strategy consisting of four elements:

- The Carbon Pollution Reduction Scheme (as the primary mechanism);
- The expanded Renewable Energy Target;
- Investment in renewables and carbon capture and storage; and
- Action on energy efficiency.⁷

2.15 The committee notes that the government's proposals regarding each element of this strategy have been criticised by various experts and witnesses throughout this inquiry.

Adapting to unavoidable climate change

2.16 In the White Paper the government states that some climate change impacts are unavoidable, and could pose significant risk to assets, investments, environments, communities and regional economies.⁸

6 Australian Government, *White Paper*, December 2008, p. xv.

7 Australian Government, *White Paper*, December 2008, p. 1.8.

8 Australian Government, *White Paper*, December 2008, pp 1.10-1.11.

2.17 A National Climate Change Adaptation Framework has been developed by federal, state and territory governments to enable an effective response to climate change and to outline the action that needs to be taken. Under this framework, the National Climate Change Adaptation Facility and the Commonwealth Scientific and Research Organisation (CSIRO) Climate Change Adaptation Flagship have been established 'to drive development and implementation of national research plans to address key knowledge gaps constraining adaptation action'.⁹

Helping to shape a global solution

2.18 The government has noted that climate change is a global issue that consequently must be addressed on a global scale. The White Paper states that a global framework to reduce global emissions is important to protect the Australian climate and economy from the impacts of climate change. Therefore a key objective for Australia is to increase the number of countries willing to commit to action on climate change.¹⁰

2.19 The government has been involved for many years in a series of international initiatives which contribute to global action on emissions reduction. These include the Asia-Pacific Partnership on Clean Development and Climate, the International Forest Carbon Initiative, international cooperation on clean energy technology, the International Climate Change Initiative, and the Global Carbon Capture and Storage Initiative.¹¹

2.20 The White Paper argues that actions taken domestically will support Australia's ability to 'secure the participation of all countries, both developed and developing, in global efforts to reduce emissions'.¹²

2.21 The committee agrees with the government's objective articulated in the White Paper that a global framework to reduce global emissions is important to protect both the Australian climate and the economy.

2.22 The committee is concerned that insufficient progress has been made in achieving such a global framework.

2.23 The committee notes that as discussed in more detail in the next section of this chapter, there has been little in the way of binding international commitment to reduce emissions to date, particularly amongst Australia's main trade competitors.

2.24 The committee considers that precipitous action by Australia without an appropriate global framework will damage the Australian economy and jobs, without

9 Australian Government, *White Paper*, December 2008, pp xxiv and 1.11.

10 Australian Government, *White Paper*, December 2008, pp xxiv-xxv and 1.12-1.13.

11 Australian Government, *White Paper*, December 2008, pp xxiv-xxv, 1.12-1.13 and 3.7.

12 Australian Government, *White Paper*, December 2008, pp xxiv-xxv and 1.12-1.13.

the prospect of a beneficial environmental outcome by reducing global greenhouse gas emissions. The committee is of the view that such an outcome as a result of the Australian experience would make global participation less and not more likely.

International context

Need for a global solution

2.25 The overwhelming majority of the evidence received by the committee indicated there is wide consensus that reducing greenhouse gas emissions is a global issue which must be addressed by a global solution.

2.26 Professor Warwick McKibbin, an economist of significant standing in Australia, and a witness whom the committee found to be exceptionally informative and helpful, succinctly articulated the argument:

The problem is that the environmental effectiveness is not an Australian issue, it is a global issue, but the cost is an Australian issue...We need a system where the global outcome environmentally is beneficial, and us cutting with no one else cutting does not deliver anything.¹³

2.27 ExxonMobil Australia set out the premise of the argument clearly in its submission:

It is important to understand that mitigating global carbon dioxide (CO₂) emissions growth requires participation of the major developing economies in any policy response. The scope and scale of the emissions challenge can not be met by Australia acting alone given our small contribution to global emissions (i.e. Australia's CO₂ emissions from fossil fuel combustion were ~1.4% of the world's total in 2005 and this share is forecast to decline.)¹⁴

2.28 This was echoed by BP Australia, which noted 'Australian emissions are 1½ per cent of the total, so action in Australia by itself is not going to greatly impact the world.'¹⁵

2.29 In his report to the committee, Dr Brian Fisher of Concept Economics noted:

If Australia were to eliminate entirely its emissions it would make no dent in the problem in a world where Australia's annual emissions constitute less than either the United States or China emits in a month.

In other words, Australia's actions alone have no discernable impact on the environmental objective. The only effective response to climate change is a global one that engages all major emitters.¹⁶

13 Professor Warwick McKibbin, *Committee Hansard*, 19 February 2009, p. 67.

14 ExxonMobil Australia, *Submission 66*, p. 2.

15 Mr Mark Proegler, Director, Environmental Policy, BP Australia, *Committee Hansard*, 17 February 2009, p. 43.

2.30 As stated by Mr Owen Pascoe, Climate Change Campaigner for the Australian Conservation Foundation (ACF):

...it is in Australia's national interest to see an effective international agreement on climate change that protects the Australian economy as well as Australia's natural icons, such as the Great Barrier Reef and the Murray-Darling Basin...in terms of protecting the environment global emission reductions is what is important.¹⁷

2.31 Professor Anthony Owen, of the Curtin University of Technology noted that without a global scheme in place, the cost of reducing emissions will be significantly higher:

Clearly only Kyoto protocol ratifiers are obliged to take action. So I think you will see a price that is quite significantly above what would otherwise be in place if it were a global trading system. The developed countries of the world are carrying the burden for emissions of the developing countries...The cost will be higher in Australia than it would otherwise be if the entire world was involved.¹⁸

2.32 Some submitters demonstrated their endorsement of a global solution by noting support for linking Australia's trading scheme with other international schemes.¹⁹

2.33 Mr Stephen Gale, Regional Director Climate Change, Futureworld National Centre for Appropriate Technology, effectively summarised what Australia's priority should be, noting, 'We need to achieve a reduction in global greenhouse gas emissions while also safeguarding the quality of life within Australia.'²⁰

Likelihood of a global solution

2.34 Many witnesses told the committee they believe it is unlikely that other countries will take action on climate change to the same extent as proposed by the Australian Government and implement comparable schemes. Professor Owen noted, 'Ultimately, the Holy Grail is to have an international market for carbon, but I suspect that that is quite some time off.'²¹

16 Dr Brian Fisher, Concept Economics, *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions*, 30 January 2009, p. 25.

17 Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation, *Committee Hansard*, 2 February 2009, pp 78 and 81.

18 Professor Anthony Owen, Energy Economics, Curtin University of Technology (CUT), *Committee Hansard*, 17 November 2008, p. 43.

19 BP Australia, *Submission 68*, p. 11; ExxonMobil Australia, *Submission 66*, p. 9.

20 Mr Stephen Gale, Regional Director Climate Change, Futureworld National Centre for Appropriate Technology, *Committee Hansard*, 1 April 2009, p. 6.

21 Professor Anthony Owen, CUT, *Committee Hansard*, 17 November 2008, p. 41.

2.35 As Dr Fisher noted:

Basically, to solve the climate change problem we need to engage every major emitter on the planet...Nobody really, honestly, believes that the governance arrangements will be in place for countries, even in middle-income or low-income developing countries, to put in place something like an emissions trading scheme where a tonne of carbon emitted in Africa equals a tonne of carbon in Australia.²²

2.36 Dr Fisher added:

...under what I believe is a practical view of the world, where it will take a long time indeed to get other countries involved in this process, particularly our Asian trading partners, our world prices will remain basically on what modellers would call the reference case. We will not be able to pass on the cost of these things. That cost will be imposed on Australian exporters and those industries will become smaller as a consequence.²³

2.37 Professor McKibbin added to the debate:

We are far too optimistic if we think Copenhagen is a solution. Kyoto was supposed to be a solution, Bonn was supposed to be a solution, Bali was supposed to be a solution—the problem is countries are negotiating the wrong policy...No country that is growing quickly will commit to a target in 2020 or 2030 if they do not know what it will cost. Hence, all the countries that are growing quickly have not taken on binding caps. And they are the ones that you need to have policies. So we are undermining ourselves by perpetuating this negotiating strategy and implementing policy in this country which does not address the fundamental problem at the global level.²⁴

2.38 Mr Andrew Richards, Executive Manager of Government and Corporate Affairs, Pacific Hydro explained to the committee, that while many countries may not be implementing emissions trading schemes (ETS), they are taking action to reduce emissions in different ways:

One of the things that we do notice, being an international player, is that no matter what the jurisdiction—whether it be Latin America, Europe, the United States—one thing they all have in common is they are doing a hell of a lot on domestic policy, particularly domestic energy policy, to start to change the way they do things. In the United States you have close to 30 states that have some form of feed-in tariff or mandatory renewable energy target in place. In China you have huge incentives to install renewable energy. India is the same. Obviously, right across Europe they have similar mechanisms to ours here in the MRET. So even though a lot of these countries are not participating in global emissions trading, they are doing a

22 Dr Brian Fisher, *Committee Hansard*, 2 April 2009, pp 51 and 54.

23 Dr Fisher, *Committee Hansard*, 2 April 2009, p. 58.

24 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 78.

lot to prepare their economy, and specifically their energy sector, to be able to deal with it sometime in the future in a meaningful way.²⁵

2.39 Some countries have adopted or are considering adopting a variety of different measures to reduce emissions. However many, especially Australia's key trading competitors, have not taken significant action to date.

Australia's key competitors

2.40 While Australia is the world's largest coal exporter overall, and the largest exporter of coking coal in particular, its major competitors in the industry are Indonesia and Russia. Indonesia is the largest exporter of steam coal (also known as thermal coal) and its exports are increasing. Russian coal exports are also very competitive and Russia is looking to expand its export capacity.²⁶

2.41 In the natural gas market, Russia, Canada and Norway are the leading exporters. Australia directly competes with Qatar, Malaysia, Indonesia and Algeria for a share of the world liquid natural gas (LNG) trade. It is expected that exports from Africa, the Middle East and Russia will grow significantly over the next two decades.²⁷

2.42 Australia's major trading partners also include: China, Japan, the United States, the Republic of Korea, Singapore, the United Kingdom, New Zealand, Thailand, Germany, India, Taiwan, Vietnam, France, Italy, United Arab Emirates, Netherlands, Papua New Guinea, Hong Kong, South Africa, Canada, Saudi Arabia, and Switzerland.²⁸

2.43 The section below outlines the type of action that is being taken by Europe, the United States of America, Canada, New Zealand and Japan. While Australia competes with some of these countries, it is important to note that the action they are taking, or considering taking, is very different to that proposed for Australia with the CPRS. The report then goes on to outline the action being taken by some of our major competitors including China, Russia, Malaysia, Indonesia, Qatar, Vietnam and Nigeria. Many of these countries are taking little or no action to reduce their emissions and are certainly not considering imposing a price on carbon. As discussed in chapter 5, Australian trade exposed industries are particularly vulnerable under a carbon cost, given that the majority of our competitors do not face any carbon cost.

25 Mr Andrew Richards, Executive Manager, Government and Corporate Affairs, Pacific Hydro, *Committee Hansard*, 2 April 2009, p. 44.

26 International Energy Agency, *Coal Information (2008 edition)*, Organisation for Economic Cooperation and Development (OECD)/ International Energy Agency (IEA), 2008, p. I/17; IEA, *World Energy Outlook 2008*, IEA/OECD, 2008, pp 119-121.

27 IEA, *Natural Gas Information (2008 edition)*, OECD/IEA, 2008, pp II.20 and II.39; IEA, *World Energy Outlook 2008*, IEA/OECD, 2008, pp 131-134.

28 Department of Foreign Affairs and Trade, *Composition of Trade 2007-08*, November 2008, pp 8-9.

Countries considering emissions trading

2.44 The committee observes that while the countries below have either implemented or are considering implementing emissions trading schemes, their schemes all differ significantly from the CPRS proposed by the Australian Government.

2.45 The committee notes concerns raised in chapter 3 of this report that the CPRS is more ambitious and complex than any other scheme currently in place or under consideration anywhere else in the world.

Europe

2.46 The committee notes that the United Kingdom, Germany, France and Italy, which are all participants in the European Union emissions trading scheme (EU ETS), are major trading partners of Australia.

2.47 The EU ETS is currently the largest cap and trade scheme in operation. The scheme was established in 2003 and was launched on 1 January 2005.²⁹

2.48 The first stage ran from 2005 to 2007, and at least 95 per cent of emission permits were distributed free of charge.³⁰ In addition, more permits were allocated than actual emissions, which meant that essentially all emissions remained cost free, though in theory a fine was to be applied for every tonne of carbon dioxide (CO₂) emitted over the prescribed emissions limit.

2.49 This first phase covered a variety of power generation and metals and minerals processing facilities, but did not cover transport, construction, waste processing, agriculture or some industrial plants. The second stage of the scheme commenced on 1 January 2008.³¹

2.50 The EU ETS has been characterised as a 'learning by doing' exercise, and a number of lessons were noted by the European Commission after the first phase. One of the main problems with the first phase of the EU ETS arose from the over-allocation of permits.³² The oversupply of permits, combined with the fact that permits had a defined end point, meant that the value of permits plunged. The oversupply of permits was the result of a series of factors:

29 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 3-4.

30 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 4-6.

31 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 4-6.

32 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 6-7, 9-12 and 14-15,

- Every country produced its own national emission permits allocation plan, but each country used different methods to estimate emissions, and the plans of a number of countries featured increases in permitted emissions. This resulted in an overall allocation target of 3 to 9 per cent above pre-2005 emissions levels.
- In most countries, facilities that closed during the first trading period had to forfeit their permits, and these had to be disposed of by the end of 2007, adding to the general oversupply of permits.
- The emission permit allocation plans for several countries were approved after the first trading period commenced, adding to the existing pool of permits.³³

2.51 The European Commission intends to alter the scheme's design over the long term, to auction a larger share of permits and extend coverage to a number of new industries, among other changes.³⁴

2.52 Importantly, under the European scheme, trade exposed, export competing industries will continue to be allocated 100 per cent free permits until 2020.³⁵

2.53 Economic modelling of the impact of the EU ETS on European industries has indicated how industries were expected to be affected by the introduction of the scheme. The modelling assumed an average carbon price of €20 per tonne of CO₂, and an increase of €10 per megawatt hour in the generation of electricity. The results are summarised in the following table:

33 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 4-7.

34 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 15-16.

35 Brendan Pearson, Deputy Chief Executive, Minerals Council of Australia, http://www.minerals.org.au/data/assets/pdf_file/0012/33222/Op-ed_ETTS_07-01-09.pdf (accessed 7 May 2009).

Table 2.1 EU ETS projected cost increases by industry and likely increase in consumer costs

Industry	Cost increase of production	Likely increase in consumer cost
Power Generation Coal	Increase by €10 per MWh	Increase of less than €10?
Power Generation Nuclear	Increased profitability	Increase of less than €10?
Steel Basic Oxygen Furnace	Increase by 17.3%	Increase by 6%
Industry	Cost increase of production	Likely increase in consumer cost
Steel Electric Arc Furnace	Increase by 2.9%	66% of costs may be passed to consumer
Chemical Paper Pulp Processing	Increase by 0.3 to 1.0%	50% additional costs passed to consumer
Recovered Fibre Paper Pulp Processing	Increase by 1.9%	Unknown
Mechanical Paper Pulp Processing	Increase by 3 to 6%	Unknown
Cement Production	Increase by 36.5%	Uncertain due to import competition
Petroleum Refining	Increase by 20.5%	Increase by 1%
Primary Aluminium	Increase by 11.4%	Uncertain due to import competition
Secondary Aluminium	Increase by 0.5%	Uncertain due to import competition

Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, p. 13.

2.54 The table indicates that most of the industry sectors listed are limited in their ability to pass on the full cost of the EU ETS to customers, thereby reducing their profitability. The bulk of the cost increases appear to stem from increased power costs.³⁶

2.55 While early economic modelling indicates that the impact of the first phase on the competitiveness of European industry was minimal, which is not unexpected given the amount of free permits issued, those sectors exposed to international competition may be more severely impacted in subsequent trading periods depending on the design of the scheme. As explained in paragraph 2.52, trade exposed industries in Europe will be significantly assisted by the continued allocation of free permits until other countries begin to implement their own emissions trading schemes. Further, these results occurred with an oversupply of permits, and during a period of strong economic growth and equally strong demand for metals, power and processed minerals. The committee notes that 'Robust economic conditions have a way of hiding any competitive problems.'³⁷

2.56 The committee notes that the EU ETS is not as comprehensive as that proposed for Australia, and given the high allocation of permits to European emitters,

³⁶ Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, p. 13.

³⁷ Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, pp 13-14.

Australian industry is likely to be at a disadvantage with respect to carbon costs when competing against European countries.

United States of America

2.57 The United States remains one of Australia's significant trading partners.

2.58 Currently, the United States (US) runs a nation wide cap and trade ETS called the Acid Rain Program, which covers sulphur dioxide and nitrogen oxides. The scheme includes the electric power generators and others who wish to opt in. This ETS actually provided the model for the EU ETS and has achieved significant reductions in sulphur dioxide and nitrogen oxide emissions.³⁸

2.59 There are also a series of proposed voluntary and mandatory emissions trading schemes across a number of US states, some of which are being implemented in conjunction with Canadian provinces. These schemes include the Regional Greenhouse Gas Initiative, Midwestern Greenhouse Gas Accord, and the Western Climate Initiative.³⁹ According to the Centre for International Economics the North American schemes are focussed on an alternative cap and trade scheme configuration, to facilitate transitional arrangements, involving an 'output based allocation' approach. An 'output based' approach is also the basis of the proposed Canadian scheme.⁴⁰ See paragraph 2.66.

2.60 Dr Fisher noted in his report to the committee that any potential scheme in the US is likely to be more supportive of its industries:

Any prospective scheme that may emerge in the United States in coming years is also likely to have significantly more generous EITE assistance provisions than Australia's ETS. For example, the Lieberman-Warner Bill (defeated in Congress in 2008) proposed a phase-in of 24.5 per cent auctioning in 2012, rising to 58.75 per cent by 2032 and then remaining at that level until 2050.

In addition, it is virtually assured that any politically viable bill to introduce a cap-and-trade scheme in the United States must include provisions for border measures against countries not subject to an emissions constraint. The Lieberman-Warner Bill, for example, would have required the President to determine what countries had not taken comparable action to limit GHG emissions and for importers of covered goods from those countries to buy international reserve allowances. Some form of border measure was supported by both Presidential candidates prior to the

38 Leslie Nielson, *Emissions— who is trading what?*, Parliamentary Library Background Note, 15 August 2008, <http://www.aph.gov.au/Library/pubs/BN/2008-09/emissions.htm> (accessed 15 April 2009).

39 See Leslie Nielson, *Emissions— who is trading what?*, Parliamentary Library Background Note, 15 August 2008, <http://www.aph.gov.au/Library/pubs/BN/2008-09/emissions.htm> (accessed 15 April 2009).

40 Centre for International Economics, *Review of the proposed CPRS*, April 2009, pp 14 and 88.

November 2008 election. This then would raise serious questions in the WTO and potential disruption to trade.⁴¹

2.61 The committee notes that the 'stimulus package' developed by the Obama Administration had domestic protectionist overtones protecting US domestic industry from imports. The committee notes that the United States Administration is moving down a more protectionist path while the Australian Government's proposed CPRS will make imports into Australia more competitive and reduce the competitive position of Australian made products.

2.62 The committee is concerned that the CPRS, together with the more protectionist approach taken by the United States Government, will disadvantage Australian business.

Canada

2.63 Canada is a leading LNG exporter and is one of Australia's major trading partners.

2.64 In 2006 Canada gave notice of its intention to develop a greenhouse gas ETS, modelled on a baseline and credit approach. The government will propose intensity based targets which will be applicable from 2010. Canada's target is to reduce total greenhouse gas (GHG) emissions by 20 per cent of 2006 levels by 2020.⁴²

2.65 Subject to various industry specific thresholds, the proposed scheme will cover the following industries: power generation, oil and gas, pulp and paper, iron and steel, smelting and refining, cement, lime, potash and chemicals and fertilisers.⁴³

2.66 The proposed Canadian scheme is based on an 'alternative permit allocation approach within a cap and trade scheme termed "output based allocation"'.⁴⁴ The Centre for International Economics described this approach as one in which:

...firms are provided with free permits according to current output and an assigned emissions intensity (which could be based on business as usual historical intensity or, potentially, a particular target intensity). The emissions intensity is pre-determined (although may vary over time).

41 Dr Brian Fisher, Concept Economics, *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions*, 30 January 2009, p. 27.

42 Parliamentary Library, *Canadian emissions trading scheme*, Climate Change Web Publication, <http://www.aph.gov.au/Library/Pubs/ClimateChange/governance/foreign/canadian.htm> (accessed 16 April 2009).

43 Parliamentary Library, *Canadian emissions trading scheme*, Climate Change Web Publication, <http://www.aph.gov.au/Library/Pubs/ClimateChange/governance/foreign/canadian.htm> (accessed 16 April 2009).

44 Centre for International Economics, *Review of the proposed CPRS*, April 2009, p. 69.

Effectively, firms only pay for emissions that are above the assigned emissions intensity. Also, effectively, firms that achieved (ex post) better than the assigned intensity will have permits available to sell.⁴⁵

2.67 The Centre for International Economics has argued that output based allocation 'leads to a greater tendency towards emission rate reduction...This means a lower price increase, but a greater cost of achieving a given level of emissions reduction.'⁴⁶

2.68 The Canadian government has also proposed the introduction of a number of complementary measures, including mandatory carbon capture and storage for specific new facilities, a Technology Fund to invest in emissions reduction projects, and an emissions offsets scheme.⁴⁷

2.69 Alberta has implemented its own emissions intensity based trading scheme and several provinces are intending to participate in various emissions trading schemes with some Northern American states, as discussed in paragraph 2.59.⁴⁸

2.70 The committee notes that the proposed Canadian scheme is not as comprehensive as that proposed for Australia and this may be detrimental to the competitiveness of Australian industry.

New Zealand

2.71 New Zealand is one of Australia's major export markets, with principal exports including refined and crude petroleum, and aluminium.⁴⁹

2.72 Legislation establishing an ETS in New Zealand came into force in September 2008, however the new New Zealand Government has announced a full review of the scheme design.⁵⁰

2.73 The legislation as passed provides for the scheme to be phased in across sectors between 2008 and 2013. Industries covered by that scheme include transport, forestry, industrial process, liquid fuels, agriculture, stationary energy, synthetic gases

45 Centre for International Economics, *Review of the proposed CPRS*, April 2009, p. 88.

46 Centre for International Economics, *Review of the proposed CPRS*, April 2009, p. 88.

47 Parliamentary Library, *Canadian emissions trading scheme*, Climate Change Web Publication, <http://www.apf.gov.au/Library/Pubs/ClimateChange/governance/foreign/canadian.htm> (accessed 16 April 2009).

48 Parliamentary Library, *Canadian emissions trading scheme*, Climate Change Web Publication, <http://www.apf.gov.au/Library/Pubs/ClimateChange/governance/foreign/canadian.htm> (accessed 16 April 2009).

49 Department of Foreign Affairs and Trade, *Composition of Trade 2007-08*, November 2008, pp 5 and 223-224.

50 Australian Government, *White Paper*, December 2008, p. xviii.

and waste. Transitional assistance is intended to be provided to forestry, industry, fishing, agriculture and to households.⁵¹

2.74 The committee notes the New Zealand scheme is currently under review and therefore may change significantly, affecting the extent to which it and the CPRS would have competitive implications for Australia.

2.75 The New Zealand review is currently considering a number of issues, including the 'prospects for an international agreement on climate change' post Kyoto, the development of a 'high quality, quantified regulatory impact analysis' to identify the net benefits or costs to New Zealand of any policy action, 'the impact on the New Zealand economy and New Zealand households of any climate change policies, having regard to the weak state of the economy, the need to safeguard New Zealand's international competitiveness, the position of trade exposed industries', 'the timing of the introduction of any New Zealand measures, with particular reference to the outcome of the December 2009 Copenhagen meeting, the position of the United States' and 'the relative merits of an emissions trading scheme or a tax on carbon or energy as a New Zealand response to climate change'.⁵²

2.76 The committee also notes the phased approach to implementing the New Zealand scheme which is likely to disadvantage Australian industries until the New Zealand scheme is fully implemented.

Japan

2.77 Japan is also one of Australia's major export markets, with principal exports including coal, refined and crude petroleum, and aluminium.⁵³

2.78 Japan is currently running a voluntary ETS on a cap and trade basis and is working on its own mandatory ETS.⁵⁴

2.79 The committee notes the comments of Dr Alan Moran:

51 New Zealand's Climate Change Solutions, *Implementing the emissions trading scheme*, 15 September 2008, <http://www.climatechange.govt.nz/emissions-trading-scheme/implementing/index.html> (accessed 16 April 2009).

52 Terms of Reference of New Zealand Select Committee undertaking the Emissions Trading Scheme Review, http://www.parliament.nz/en-NZ/PB/SC/Details/EmissionsTrading/9/b/e/00SCETS_TOR_1-Terms-of-reference-of-the-Emissions-Trading-Scheme-Review.htm (accessed 6 May 2009).

53 Department of Foreign Affairs and Trade, *Composition of Trade 2007-08*, November 2008, pp 200-201.

54 Leslie Nielson, *Emissions— who is trading what?*, Parliamentary Library Background Note, 15 August 2008, <http://www.aph.gov.au/Library/pubs/BN/2008-09/emissions.htm> (accessed 15 April 2009).

Japan will participate in all international matters and contribute to carbon savings but is not considered at all likely to introduce a tax or ETS that involves any disciplines on industry.⁵⁵

2.80 The committee notes that the CPRS is likely to cause an increase in the production costs of the products Australia exports to Japan, reducing Australia's competitive position.

Countries not considering emissions trading

2.81 The committee notes that only those countries listed above are considering adopting a price on carbon, however, many of Australia's key trade partners and competitors are not.

2.82 While the countries discussed below, who are major trade competitors with Australia in various industries, have implemented various climate change policies, as has Australia, they are not considering action which would significantly impact on their industries, and any future such action remains unlikely.

2.83 The committee is concerned that the introduction of the CPRS as currently proposed, in the absence of more substantial action by Australia's trading partners and key competitors, will severely damage Australia's international trade competitiveness and as a result the Australian economy and jobs.

China

2.84 China remains one of Australia's major export markets, with principal exports including coal, crude petroleum and aluminium.⁵⁶

2.85 China is also a major trade competitor in aluminium and cement. China is the world's largest exporter of cement and accounts for about one third of global production of aluminium. Notably, most of China's aluminium production is supplied by coal-fired electricity, in contrast to the cleaner energy employed by Australian aluminium producers.⁵⁷

2.86 China released its National Climate Change Program in June 2007, in which it outlined a series of domestic activities it planned to undertake to mitigate GHG emissions and adapt to climate change. The program rejects the imposition of mandatory limits on emissions, though goals under the program include: reducing

55 Alan Moran, *Japan and Global Warming Policies*, Occasional Paper, Institute of Public Affairs, November 2008, <http://ipa.org.au/sectors/energy/publication/1447/japan-and-global-warming-policies> (accessed 29 April 2009).

56 Department of Foreign Affairs and Trade, *Composition of Trade 2007-08*, November 2008, p. 154.

57 Dr Brian Fisher, Concept Economics, *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions*, 30 January 2009, pp 29-30.

energy intensity by 20 per cent by 2010, more than doubling renewable energy use by 2020, improving efficiency standards, and significantly, expanding power generated by nuclear and gas as well as renewable sources to displace the use of coal-fired power.⁵⁸

2.87 Programs which have been implemented to date include an economy wide efficiency target, a renewable energy law mandating 16 per cent of energy use is to come from renewable sources by 2020, national building codes which specify energy saving design standards, energy efficiency standards for appliances, fuel economy standards and closing inefficient industrial facilities. China also actively participates in the Clean Development Mechanism (CDM), and accounts for more than 40 per cent of the global emission credits from CDM projects.⁵⁹

2.88 A tentative outline for a domestic ETS was released by the central bank in June 2008, however, the introduction of a national scheme is highly unlikely in the near future.⁶⁰

India

2.89 India imports coal and crude petroleum from Australia, and is one of Australia's major trading partners.⁶¹

2.90 India, like China, has reportedly rejected the application of mandatory emissions limits, however, like China, a number of policies to potentially reduce GHG emissions have been introduced. Measures which have been implemented include: increasing renewable energy to 10 per cent of electricity generation capacity, incentives for solar and wind power generation, closing inefficient coal fired generation, expanding the nuclear power industry, establishing an energy efficient building code for commercial buildings and conversion of public transport and taxis to compressed natural gas.⁶²

58 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

59 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

60 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

61 Department of Foreign Affairs and Trade, *Composition of Trade 2007-08*, November 2008, pp 8 and 186-187.

62 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

2.91 The committee notes that the introduction of an ETS in India is highly unlikely in the near future.

Brazil

2.92 Australia exports coal to Brazil, and Brazil is one of Australia's largest competitors in the export of beef.⁶³ Brazil also competes in the world aluminium market.⁶⁴

2.93 Brazil is the world's largest producer and consumer of ethanol, and has a Mandatory Biodiesel Requirement policy in place. In addition it has identified the Kyoto Protocol's CDM as the main avenue for international cooperation on climate change.⁶⁵

2.94 Further the country sources about 45 per cent of its electricity from renewable sources and has a Programme of Incentives for Alternative Electricity sources which provides incentives and subsidies.⁶⁶

Russia

2.95 Russia has ratified the Kyoto Protocol, and its target by 2012 is to equal its emissions in 1990. However, between 1990 and 2002, Russia's greenhouse gas emissions fell significantly due to the economic contraction after the end of the Soviet Union. Consequently, Russia will have no difficulty in meeting its commitment without taking any specific action to mitigate emissions.⁶⁷

2.96 Implementation of domestic policies addressing climate change has been limited, but Russia has put in place some policies encouraging energy efficiency.⁶⁸

63 Department of Foreign Affairs and Trade, *Composition of Trade 2007-08*, November 2008, p. 142; Australian Bureau of Agricultural and Resource Economics, *Commodity Statistical Bulletin 2008*.

64 Australian Bureau of Agricultural and Resource Economics, *Australian Commodity Statistics 2008*, Australian Government, 2008, Table 241, p. 243.

65 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

66 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

67 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

68 Leslie Nielson, *Climate change policy: Brazil, China, India and Russia*, Parliamentary Library Background Note, 25 February 2009, <http://www.aph.gov.au/Library/pubs/BN/2008-09/ClimateChange.htm> (accessed 11 March 2009).

2.97 The committee notes that Russia is a major exporter of coal and natural gas. Russia is the world's third largest net exporter of coal, and its exports are very competitive, with expansions of export capacity currently being planned.⁶⁹ Russia is also the world's largest exporter of aluminium.⁷⁰

2.98 The committee considers that if Australia imposes a cost on its export industries through the CPRS, it is clear that countries such as Russia with such competitive exports, would quickly take Australia's place in the international export market.

Other key competitor countries

2.99 The committee notes that while Australia's other key trade competitors in the natural gas, coal and alumina industries, namely, Indonesia, Malaysia, Qatar, Vietnam and Nigeria, are parties to the Kyoto Protocol they are not bound to emissions targets. These countries have implemented varying degrees of climate change policy but, importantly, are not intending to implement an ETS of any sort in the near future.

2.100 Having considered the actions of all of the above countries, the committee notes that it is abundantly clear that a global solution is highly unlikely in the foreseeable future.

2.101 The committee considers that if Australia implements the CPRS in the absence of an appropriate global framework it will unduly expose its export industries, causing untold harm to the Australian economy and jobs.

The effect of Australia 'going it alone'

2.102 A substantial number of witnesses and submitters expressed concern that if Australia implemented the CPRS without any comparative action on a global scale, it would be detrimental to Australia's international competitiveness as a nation, and would not significantly contribute to a reduction in global greenhouse gas emissions – in fact, the effect of Australia 'going it alone' could be an increase in global greenhouse gas emissions.

2.103 In questioning the Department of Climate Change, the committee endeavoured to understand how Australia's national emissions target would relate to a reduction in global emissions:

CHAIR—The government has set a target in terms of domestic emissions, but have you set a target in terms of what this reduction in national emissions should contribute to the reduction in global greenhouse gas emissions?

69 International Energy Agency, *World Energy Outlook 2008*, 2008, pp 131-134.

70 Australian Bureau of Agricultural and Resource Economics, *Australian Commodity Statistics 2008*, 2008, p. 243.

Mr Sterland—No. That is not set in the paper...The policy rationale is that Australia will set a national target and it seeks to contribute to global efforts to reduce emissions through its national commitments.

CHAIR—But we do not actually have a target as to how much, through our contribution, we want to reduce global greenhouse gas emissions?

Mr Sterland—I think the Australian government, consistent with international practice, sets its target in terms of its national emissions reduction.

CHAIR—But the environmental challenge is not to reduce emissions in Australia as much as to reduce emissions around the world, is it not?

Mr Sterland—Exactly, and the more significant issue is how Australia's national efforts can contribute to the creation or the development of or be part of a global solution to this. Everyone has always recognised that that is the main game.⁷¹

2.104 Ms Meghan Quinn, Manager of the Climate Change Modelling Division in the Department of the Treasury, further noted that:

In the white paper the government set out that the overall environmental objective for Australia is that it would be in Australia's interests to have global emissions of 450 parts per million or lower.⁷²

2.105 The committee notes that the government has not clearly set out how and by how much the proposed CPRS will contribute to a reduction in global greenhouse gas emissions. No targets have been set as to how the proposed Australian CPRS will contribute to a reduction in global greenhouse gas emissions.

2.106 The committee is concerned that the lack of global focus in the government's greenhouse gas emission reduction targets through the proposed CPRS is completely inconsistent with the stated importance of a 'global solution'.

2.107 The committee considers that the lack of global focus on greenhouse gas emissions in the proposed CPRS will have negative flow-on consequences both for the environment as well as the Australian economy and jobs.

2.108 As discussed in chapter 5, there is significant risk of industries moving offshore if there is not comparative global action on emissions reduction. This concern was raised by many witnesses, including Mr Andrew Canion, Senior Adviser, Industry Policy, Chamber of Commerce and Industry of Western Australia:

71 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, and Mr Barry Sterland, Acting Deputy Secretary, Department of Climate Change, *Committee Hansard*, 2 April 2009, p. 65.

72 Ms Meghan Quinn, Manager, Climate Change Modelling Division, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 66.

For Australia to go alone, and if there were no equivalent schemes anywhere else, there would be a much stronger incentive for industry to relocate offshore—over the long term as well.⁷³

2.109 Professor Owen explained that if Australia's industries relocated offshore, this would lead to increased emissions offshore, also known as 'carbon leakage':

I do not think Australia, with such a small percentage of the world's emissions, can really dominate...It really is up to the international community and, in particular, the world's large emitters to come forward with a policy which addresses that issue. It is a serious issue, of course, leakage. If Australia drives offshore some of its energy-intensive industries, they may well create more emissions offshore than they would have with the same output in Australia.⁷⁴

2.110 Ms Quinn of the Department of the Treasury stated:

The modelling that was undertaken by the Australian Treasury found very little evidence of emissions going up in other countries as a result of abatement in Australia.⁷⁵

2.111 However, the committee notes that the modelling undertaken and published by the Department of the Treasury was not of the effects of the CPRS in its current form. If the Department of the Treasury has modelled the effects of the CPRS in its current form, none of that important information has been publicly released so far. Furthermore, the Treasury was instructed by government to model only based on the not very realistic assumption that relevant global action would be taken. This is discussed further in chapter 4.

2.112 In his report to the committee, Dr Fisher noted:

Over 80 per cent of Australia's exports go to countries that are unlikely to be subject to a carbon constraint in the near term. Around 75 per cent of Australia's imports come from similar countries. Notably, these figures are significantly higher than developed countries in Europe given high levels of intra-EU trade. For example, the relevant figures for the United Kingdom are roughly 40 per cent. This suggests, in turn, that competitiveness and carbon leakage problems may be more significant for Australia's EITE sector than for emissions-intensive industries in many other developed countries.

Notwithstanding modifications in the White Paper, the Government's proposed ETS looks set to impose greater competitiveness imposts on

73 Mr Andrew Canion, Senior Adviser, Industry Policy, Chamber of Commerce and Industry of Western Australia, *Committee Hansard*, 17 November 2008, p. 12.

74 Professor Owen, CUT, *Committee Hansard*, 17 November 2008, p. 41.

75 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 67.

Australian EITE industries than will apply under any other current or proposed scheme, including the European ETS.⁷⁶

2.113 Many witnesses informed the committee that there are industries in Australia which perform more efficiently than their counterparts overseas, or which displace higher emission products overseas. This is examined in greater detail in chapter 5.

2.114 Witnesses noted that it is important to recognise that the production of these products in Australia contributes to the reduction of global greenhouse gas emissions.⁷⁷ Shell Australia noted LNG as an example of such a product:

These projects can also make a very large contribution to reducing global CO₂-e emissions by displacing higher emission fossil fuels, such as coal, in the countries to which Australia exports.⁷⁸

2.115 When questioned by the committee, both the Australian Aluminium Council and BlueScope Steel agreed that lost production in Australia will actually lead to increased global greenhouse gas emissions. Mr Noel Cornish, the Chief Executive of BlueScope Steel stated, 'we would see the loss of manufacturing industry and the loss of jobs in Australia for no global greenhouse gas improvement.'⁷⁹

2.116 Mr David Pearce, the Executive Director of Centre for International Economics further noted, 'if we are effectively imposing taxes on our export industries for no environmental gain it is not a sensible thing to do.'⁸⁰

2.117 Mr Daniel Price, the Managing Director of Frontier Economics, argued that:

...it may actually be efficient, from an environmental point of view, to increase emissions in Australia...because we can do things so much more efficiently and convert raw energy into electrical energy so much more efficiently than other countries, it may be far more sensible to have an increase in emissions.⁸¹

76 Dr Brian Fisher, Concept Economics, *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions*, 30 January 2009, p. 26.

77 See Australian Petroleum Production and Exploration Association, *Committee Hansard*, 19 November 2008; Cement Industry Federation, *Committee Hansard*, 19 November 2008; Australian Aluminium Council, *Committee Hansard*, 19 November 2008; Chevron Australia, *Committee Hansard*, 18 February 2009; BlueScope Steel, *Committee Hansard*, 1 April 2009; Cement Australia, *Committee Hansard*, 7 April 2009.

78 Shell Australia, *Submission 60*, p. 9.

79 Mr Michael Ison, Acting Executive Director, Australian Aluminium Council, *Committee Hansard*, 19 November 2008, p. 38; Mr Noel Cornish, Chief Executive, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 32.

80 Mr David Pearce, Executive Director, Centre for International Economics (CIE), *Committee Hansard*, 2 April 2009, p. 32.

81 Mr Daniel Price, Managing Director, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 23.

2.118 Chevron Australia further added:

...the Australian government should give due consideration to how the decisions it makes in Australia will impact on global greenhouse emissions, not just Australia's emissions.⁸²

2.119 The committee was presented with evidence from a significant number of witnesses noting that Australia's competitiveness will be significantly disadvantaged if Australia implements the CPRS without comparative international action. These issues are also explored in chapter 5.

2.120 The Australian Petroleum Production and Exploration Association explained:

Australia is the only producer of LNG supplying the Asia-Pacific region that would have a price on carbon. Our competitors are Nigeria, Algeria, Qatar, Trinidad, Tobago, Indonesia and Malaysia. They are competitors. While we would dearly love them to come to the table to address climate change by imposing a similar price of carbon, the realistic expectation is that that is still a long way away. At the moment, our having a price on carbon and their not, and their not being obliged to, of course gives them a very strong competitive advantage against us.

Secondly, there is India and China and the customer countries. I do not think anyone knows when they are going to impose a price on carbon, or whether in fact there will end up being a Kyoto-style agreement at any point.

Maybe it will be a series of unilateral decisions, perhaps defined through bilateral or other multilateral agreements. There is a whole range of mechanisms on which a global price on carbon could be delivered. But there are no signs that any of those countries, particularly our competitors, will do anything soon.⁸³

2.121 Dr Fisher further noted that in terms of the cement industry:

Major sources of imports include Japan, Indonesia and Taiwan, while developing countries in the Asia-Pacific region that are unlikely to impose a carbon constraint in the medium term have accounted for most of the growth in global capacity in recent years. China is the world's largest exporter approaching 40 per cent of global exports of cement. Industry estimates put excess capacity in the Asia-Pacific at more than 200 Mt (equivalent to more than 20 times Australian consumption). This indicates a serious risk to jobs and investment under an ETS, especially given countries

82 Mr John Torkington, Senior Adviser on Climate Change Policy, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 23.

83 Ms Belinda Robinson, Chief Executive, Australian Petroleum Production and Exploration Association, *Committee Hansard*, 19 November 2008, p. 29.

such as China, Indonesia, Thailand, Malaysia and Vietnam are unlikely to embrace emission pricing in the foreseeable future.⁸⁴

2.122 The Minerals Council of Australia (MCA) stated:

...we want to make a contribution to climate change but it requires a global protocol to be effective and the design of our scheme must take that into account. That is the most important point.

...

There is absolutely no point in having the adverse impact whereby we set out on something that is overly ambitious and it becomes apparent to anybody looking across our shores that we have taken the risk of tanking our economy with the prospect of trying to actually do something meaningful. Australia's emissions are small as a proportion of the global emissions. That is not a platform for doing nothing. It is a platform for understanding our proportionate responsibilities and where we fit in the global scheme...If you have a price of carbon and you even have the technologies but you have no global protocol, then you have not negated the loss of international competitiveness to Australian firms and businesses.⁸⁵

Committee comment

2.123 The committee notes that the CPRS as currently proposed will constrain any growth in domestic emissions (and related economic growth) by imposing a price on carbon. This constraint is imposed irrespective of the overall impact on global emissions.

2.124 Specifically, the committee notes the constraints to be imposed on economic activities that can help reduce overall global greenhouse gas emissions because of related (though lower) increases in emissions in Australia.

2.125 The committee also notes that constraints on domestic emissions will be imposed on economic activities in Australia even where related levels of emissions are world's best practice and lower than those from comparable industries overseas. Any ensuing transfer of economic activity or economic growth to less environmentally friendly industries in jurisdictions not imposing a price on carbon will have a negative impact on global greenhouse gas emissions.

2.126 The committee further received evidence from a number of businesses and industries which have already made significant cuts in carbon emissions in recent years and decades, without any realistic capacity for further cuts in the short to

84 Dr Brian Fisher, Concept Economics, *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions*, 30 January 2009, p. 30.

85 Mr Peter Coates, Chairman, and Mr Mitchell Hooke, Chief Executive, Minerals Council of Australia (MCA), *Committee Hansard*, 8 December 2008, pp 4-5.

medium term.⁸⁶ For those businesses and industries, which have done the right thing by the environment for some time, the CPRS as proposed is nothing more than an unavoidable additional tax burden. In contrast, those businesses or industries which did not make such an effort will potentially be better off after 'catching up' on emissions reductions following the implementation of the scheme as proposed.

2.127 The committee considers these to be some of the key flaws in the CPRS in the current form as proposed by the government.

2.128 The committee considers that:

- (a) where it helps reduce global greenhouse gas emissions, growth in domestic emissions as a result of growth in economic activity should be encouraged not constrained by any Australian emissions trading scheme;
- (b) where Australian businesses operate at world's best environmental practice in terms of their level of domestic emissions, they should not be disadvantaged compared to their overseas competitors as a result of any Australian emissions trading scheme. Rather, such businesses should be encouraged to grow further, in Australia;
- (c) businesses with a demonstrated track record of best practice environmentally should not be worse off under any Australian ETS than those who did not make similar efforts in recent years.

Policy options

Emissions trading

2.129 While the committee heard many criticisms of the design of the current CPRS, a significant number of witnesses noted they supported emissions trading as the best mechanism for reducing carbon emissions.

2.130 Support for emissions trading was noted on the basis that it drives low cost abatement:

...the real benefit of schemes like emissions trading is that they can potentially deliver the lowest cost abatement to the economy, and that has to be the policy incentive. That is behind our support for the emissions-trading scheme as the preferred policy response...you can have an emissions trading scheme that provides the economic incentive to reduce greenhouse gas emissions without the additional cost burden...⁸⁷

2.131 This was echoed by the Energy Supply Association of Australia (ESAA):

86 See evidence from Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 97; Australian Aluminium Council, *Committee Hansard*, 8 December 2008, pp 29, 34 and 37; Hydro Aluminium Kurri Kurri, *Submission 78*, [p. 3].

87 Mr Torkington, Chevron Australia, *Committee Hansard*, 18 February 2009, pp 28-29.

When we first came up with a policy position of supporting an emissions trading scheme, we considered various models, including a baseline-and-credit scheme, including a tax on emissions, including an emissions trading scheme. It was the view of our association that the least-cost way of delivering greenhouse gas abatement was through an emissions trading scheme.⁸⁸

2.132 BP Australia stated that 'a trading system will provide that incentive to actually invest in technologies which will result in abatement.'⁸⁹

2.133 The ESAA also noted that an ETS 'assists investor confidence.'⁹⁰ This was supported by Australian Industry Greenhouse Network (AIGN) which stated:

One of the key reasons why industry is interested and indeed supports a well-designed emissions trading scheme is that it gives you the possibility of creating a forward price. When you are making an investment in any of these areas—electricity generators, LNG plants or whatever—typically, they are talking about 20- or 30-year investment horizons that are bankable. Twenty years is probably the shortest time that a bank will give you money to invest \$3 billion or whatever in the case of a generator—\$20 billion now for LNG plants. What you are trying to do is get this forward price from the market to enable you to make better decisions on your investment. It does not give you certainty; it gives you a framework to manage that uncertainty.⁹¹

2.134 Some witnesses referred to the benefit of implementing an ETS as it is applicable at a global level:

...where emissions trading shows a clear advantage is that it can be imposed globally on a much easier basis than taxation can be harmonised across the world, because you are looking at a fixed emissions figure which must be complied with for various nations according to their allocation...⁹²

2.135 Mr Price noted that there is no need to adopt an ETS in Australia just because that is what is being favoured internationally:

A lot of people think that you have to have the same scheme design to create an international trading platform for permits. It is not true at all. ...the fact that America, or any other country, adopts a particular scheme should not mean that we should naturally follow the same scheme for the purposes of being consistent. That seems quite ridiculous. In fact, I would

88 Ms Clare Savage, Acting Chief Executive Officer, Energy Supply Association of Australia (ESAA), *Committee Hansard*, 2 February 2009, p. 26.

89 Mr Proegler, BP Australia, *Committee Hansard*, 17 February 2009, p. 47.

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

91 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network (AIGN), *Committee Hansard*, 2 February 2009, p. 36.

92 Professor Owen, CUT, *Committee Hansard*, 17 November 2008, p. 41.

be very surprised if it would be economically efficient for countries around the world to have exactly the same scheme. In fact it is more likely to be the case that different scheme designs will produce a more efficient outcome, depending upon the nature of your emissions problems.⁹³

2.136 Other witnesses added that previous examples have demonstrated that an ETS can work. For example, Dr Raymond Wills, the Chief Executive Officer of the Western Australian Sustainable Energy Association stated:

We know that an ETS can work. The very first emissions-trading scheme in the world was a sulphur dioxide market in the USA, which led to the reduction of sulphur dioxide production in the US about eight years ahead of target. So we know an ETS can work, if it is properly implemented, with appropriate market rules.⁹⁴

2.137 The committee asked BP Australia about the internal ETS it ran in the 1990's. Mr Mark Proegler, the Director of Environmental Policy explained what BP learnt from the experience:

The key insight was innovation, I think, which probably is the foundation of our support for trading. We set the caps. We found results we did not expect in terms of ways of reducing emissions.⁹⁵

2.138 Professor McKibbin, informed the committee that an important benefit of an ETS is that you can set the emissions target, but noted that the environmental benefit of this approach is limited by the available science:

The beauty of a carbon trading system is that you get exactly the emissions outcome that you want. That is the whole purpose of it: you set a cap and the market finds the price. The problem is we do not know what the cap should be. The science is only telling us what the concentrations might look like in 50 years, which is the sum of the emissions between now and then. It does not tell us what the emissions should be in the world this year, nor does it tell us what Australia's emissions should be this year, but that is the basis of cap and trade, so that is why people prefer cap and trade if they start with the idea that we know the environmental outcome.⁹⁶

2.139 The committee also heard evidence from the National Farmers Federation, Professor McKibbin and the Australian Farm Institute noting that an ETS was not an appropriate mechanism for the inclusion of agriculture,⁹⁷ and that a baseline and credit approach would be more suitable, because it would:

93 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 22.

94 Dr Raymond Wills, Chief Executive Officer, Western Australian Sustainable Energy Association (WASEA), *Committee Hansard*, 17 November 2008, p. 51.

95 Mr Proegler, BP Australia, *Committee Hansard*, 17 February 2009, p. 49.

96 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 66.

97 See the National Farmers Federation, *Committee Hansard*, 19 November 2008, p. 11; Professor McKibbin, *Committee Hansard*, 19 February 2009, pp 74-75.

...actually create an incentive for the sector to look to ways to reduce emissions; to find technologies, to find farm management systems to implement strategies that actually reduce its emissions.⁹⁸

2.140 The MCA effectively summarised the debate:

The MCA supports the introduction of an emissions trading scheme as part of an integrated policy approach which includes (1) a global protocol involving commitment from all major emitters, (2) the development and deployment of low-emission technologies and (3) a measured transition to an emissions trading scheme, with the resultant cost burdens comparable with schemes being developed by our competitors.⁹⁹

Carbon tax

2.141 The committee also heard arguments for and against a carbon tax as an alternative approach.

2.142 Professor Owen explained the difference between an ETS and a carbon tax to the committee:

With emissions trading, you fix the level of emissions and the market determines the price...With the tax system, you fix the tax, and the market determines what the level of emissions will be. In theory, they are identical; in practice, they can be very different.¹⁰⁰

2.143 Professor Owen explained that he favoured taxation over emissions trading, as a tax system can be implemented through existing structures, and will not be bureaucratically burdensome or involve a high compliance cost. However, he stated a carbon tax is more difficult to apply globally, as 'with taxation you are not looking at a fixed emissions figure, and of course taxes can be circumvented by hidden subsidies and so on.'¹⁰¹

2.144 Professor McKibbin outlined the benefits and disadvantages of a tax system:

The beauty of a tax is that you know what the price is, so you know what it is going to cost the economy. The problem is that you do not know what emissions will be for a given tax until you do it. Secondly, one of the advantages of a tax is that the revenue goes to the government; one of the disadvantages of a tax is the revenue goes to a government. Whether it is seen as an advantage or disadvantage depends on our political persuasion. My view is that that revenue does not need to go to the government. It

98 Mr Michael Keogh, Executive Director, Australian Farm Institute, *Committee Hansard*, 19 February 2009, p. 39.

99 Mr Coates, MCA, *Committee Hansard*, 8 December 2008, p. 2.

100 Professor Owen, CUT, *Committee Hansard*, 17 November 2008, p. 44.

101 Professor Owen, CUT, *Committee Hansard*, 17 November 2008, pp 41 and 44-45.

should go to those who innovate. You do not need the government in there doing the innovation.¹⁰²

2.145 Mr Price further explained the implications of a carbon tax:

The alternative way of doing it is through a carbon tax, and a carbon tax does more or less exactly the same thing as a Carbon Pollution Reduction Scheme design does, except that it certainly does not get the benefits that come from trading emissions. I cannot really trade my tax. So it will probably lead to an outcome more slowly than an emissions trading scheme and probably at a higher cost. In terms of that view, I am supportive of the government's position on a tax. I think it is quite often a misguided belief that tax will somehow result in a more certain outcome for investors, but I think that is an illusion. The reason I say it is an illusion is that what policymakers want is a reduction in greenhouse gases; they do not want to raise costs for businesses for its own sake. You can be absolutely sure that whatever the tax is, you will get that tax wrong. It will have to be adjusted over time to achieve a certain emissions target. So this illusion that a fixed tax will provide more certainty will not be the case. The tax will get constantly changed to achieve an emissions target.¹⁰³

Intensity based scheme

2.146 Mr Price advocated an intensity based scheme, and explained how this would operate:

The way that works is that it does exactly the same thing that a tax and a cap and trade tries to do in that it changes the relative economics of high and low emissions. Instead of charging for every tonne of emission, it charges for every tonne of emission over a particular benchmark. You can think of it as a benchmark being created in terms of an international best practice benchmark—anyone above that benchmark gets charged and anyone below that benchmark actually gets rewarded. It is not just a stick scheme; there are rewards in it. There is positive inducement rather than a negative inducement. That leads to very different outcomes in terms of prices. If I do not charge for every tonne of emission but rather only charge for emissions over a baseline, which is a non-zero baseline, then clearly I am not paying as much for emissions...We do not want to charge for emissions just for the sake of charging for emissions; we want to charge for emissions to switch the relative economics of high and low activity. This will certainly achieve it. No-one has ever questioned that.¹⁰⁴

2.147 Mr Price noted that Frontier Economics had undertaken modelling which demonstrated that an intensity approach would allow deeper emission reductions with

102 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 65.

103 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 12.

104 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 12.

a lesser economic cost than the current proposed CPRS, which involves distortional compensation measures:

The only thing we changed was the scheme design. We ended up with a result that was \$300 to \$400 billion cheaper—that is, by not using the government’s compensation package and instead using the price mechanism to compensate itself, if you like, using the intensity based scheme. That tells you that already the government’s compensation package and the way they allocated that money have distorted the economy by \$300 to \$400 billion over that modelling period.¹⁰⁵

2.148 The Australian Academy of Technological Sciences and Engineering also argued for a system where permits are required only to the extent that an entity is not meeting best practice, whereby the scheme includes:

...free permits to any company of the thousand companies that are liable in this area if they are meeting world’s best energy efficiency practice and that they pay for any shortcoming over that energy efficiency level.¹⁰⁶

2.149 Complementary to the point made by Mr Price regarding incentives, the Australian Industry Greenhouse Network and BlueScope Steel argued that the scheme that Australia adopts should include incentives rather than being based on 'sticks' or penalties alone.¹⁰⁷

McKibbin-Wilcoxon Hybrid

2.150 The committee heard evidence from Professor McKibbin who, together with Associate Professor Peter Wilcoxon, developed the McKibbin-Wilcoxon Hybrid Model. Professor McKibbin described how a hybrid scheme would work:

...you would specify a target of very deep cuts, so you would say emissions today will be 10 per cent below what they currently are and disappearing by 2100. That is not the target you ultimately hit; that is just what Australia pledges. The second part of the commitment is that we will try and hit that target up to the point that the price is no higher than the world price. If the price of carbon in the world is \$10, then for the next five years we will not charge more than \$10 a tonne for carbon. How do you square up those two objectives? You allow the central bank of carbon to put as many annual permits in the system this year above the allocation so that the price is never exceeded. That is a way of actually having a lot of emissions in the economy at a given price; it is just that industry has got two-thirds of the

105 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 21.

106 Mr Peter Laver, Vice President and Fellow, Australian Academy of Technological Sciences and Engineering, *Committee Hansard*, 17 February 2009, p. 13.

107 Mr Hitchens, (AIGN), *Committee Hansard*, 2 February 2009, p. 37; Mr Alan Thomas, General Manager Engineering, Technology and Environment, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 33.

allocation and the central bank of carbon has one third of the allocation. It is a way of managing the cost and still committing to that long-term target.

If the world then says, 'We are going to cut and we are having \$30 a tonne in our market; what are you doing Australia?' we can say, 'Okay, the central bank of carbon will no longer intervene until the price hits \$30 a tonne.' Emissions in the Australian economy will go do [sic] down relative to what they would have been, but we will probably still be above our target, because we are very carbon efficient in our energy use in this country. The idea is to have a mechanism that you can use in the international commitment but which still drives domestic investment so people can see what is happening in Australia, and they can use those long-term carbon assets as hedges against their investment risk, either on fossil fuel intensive technologies or renewable technologies, because that is an asset that they can use as a perfect hedge to their long-term investments.¹⁰⁸

2.151 Professor McKibbin further explained that a hybrid scheme would recognise additional emission reduction efforts and reward abatement:

If you bring in a complementary measure, what happens is that the price remains the same but the central bank of carbon has to sell fewer permits this year to maintain the same price. So instead of the revenue going to the central bank of carbon it goes to the person who reduced the emissions. So if it is an energy efficiency program, that program gets rewarded the revenue from the abatement but you still get the same price in the economy but much deeper cuts. That is the absolute advantage of a price approach and that is built into the hybrid up to the threshold where you are above the deep cuts target.¹⁰⁹

Need to assess alternative options

2.152 Mr David Pearce expressed concern that there is not enough known about the potential implications of any of these policies:

I do not think that we currently have a sufficient quantitative understanding of the short-term challenges and implications either of the CPRS or of the various realistic alternatives that could be put in its place...quantitative regulatory impact analysis is a very powerful way of improving our understanding of different policies and potentially increasing community wide support for an appropriate way forward on mitigation policy.¹¹⁰

108 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 66.

109 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 78.

110 Mr Pearce, CIE, *Committee Hansard*, 2 April 2009, p. 25.

Economic context

Australia's economy

2.153 The committee heard evidence to the effect that, as Australia is a small, open economy and is subject to world prices, it is very difficult for Australian producers to pass on any additional cost imposed by an ETS. Dr Fisher gave the following example:

We export something of the order of 60 per cent of our beef, so effectively we are in a situation where the domestic beef prices are influenced by the international beef price. If we attempted to jack up domestic beef prices to recover this from domestic consumers then we would see imports...But in the final analysis for most of our products we are seeing international prices reflected in the Australian economy, so we cannot pass these costs on.¹¹¹

2.154 Witnesses informed the committee that Australia is a 'price taker' in various industries. Mr Cornish of BlueScope Steel told the committee:

While Australia is a competitive place to make steel, being one of the few countries with high-quality iron ore and metallurgical coal, it is a small producer in global standards. Australia produces about 0.6 per cent of global steel production. Accordingly, we are largely price takers in global and domestic markets.¹¹²

2.155 Mr Peter Morris, the Director, Economic Policy at the Australian Coal Association, further added that in terms of the coal industry, Australia is also a 'price taker':

...we are a commodity industry—that is, over the course of a commodity cycle, which could be seven, eight or 10 years, where the price does fluctuate, we are essentially a price taker. We take the price on international markets.¹¹³

2.156 Mr Pearce further added:

...resource based exports are very important in the Australian economy, although I should point out that we also have significant service exports: tourism, education and other things, which will probably be less affected. But I think the core of your proposition is that if Australia imposes a cost on these important resource industries that is not similarly imposed in our partner countries we then incur a cost that they do not or, alternatively, our reductions in emissions do not come about as efficiently or as cost-effectively as they could. I agree.¹¹⁴

111 Dr Fisher, *Committee Hansard*, 2 April 2009, p. 58.

112 Mr Noel Cornish, Chief Executive, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 28.

113 Mr Peter Morris, Director, Economic Policy, Australian Coal Association, *Committee Hansard*, 2 February 2009, p. 61.

114 Mr Pearce, CIE, *Committee Hansard*, 2 April 2009, p. 31.

2.157 Some witnesses, like Dr Wills, supported the government's argument that the Australian economy would benefit from action on climate change:

...tackling this issue diversifies our economy and allows us to develop industries that we can then export to the world as part of that process.¹¹⁵

2.158 Dr Wills emphasised this point, referring to a statement by the BP Chief Economist:

The chief economist for BP earlier this year stated that, if Australia positions itself well in an ETS, it will position Australia's economy well to take advantage of it. I do not differ from that view. I believe that, if we build a system that works well, not only will it then be echoed by other places around the world but it will give us a fundamentally better understanding of that system that will then allow us to make use of that in a global market.¹¹⁶

2.159 However, Mr Price told the committee that the CPRS could in fact have the opposite effect:

I think it is crucially important for such a small, open economy, if it is going down the line of an emissions trading scheme, to have one that does not undermine the economy because, if that is the outcome, it will give emissions trading the world over a very bad reputation.¹¹⁷

...[the CPRS] will reduce emissions in Australia, but the broader concern is that because it is so clunky and it will come at such high cost that it will allow other people to be able to point to an Australian failure as a reason for not doing reforms in their own country.¹¹⁸

Global financial crisis

2.160 In the White Paper, the government stated:

The world is currently experiencing a financial and economic crisis that has created a climate of uncertainty. Despite the challenges we face today, the global financial crisis has not diminished the risks of climate change, or the need to take decisive and responsible action now...The global financial crisis, does however, highlight the need for a prudent and balanced approach to delivering the Carbon Pollution Reduction Scheme.¹¹⁹

2.161 The committee notes that while the government states it recognises the severity of the current economic situation, it has failed to take the changed global economic environment into account when designing the CPRS or modelling its

115 Dr Wills, WASEA, *Committee Hansard*, 17 November 2008, p 53.

116 Dr Wills, WASEA, *Committee Hansard*, 17 November 2008, p 53.

117 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 11.

118 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 24.

119 Australian Government, *White Paper*, December 2008, p. xvi.

economic impact. The committee heard a great deal of criticism of the government's failure to take the global financial crisis (GFC) into account, and this is discussed in detail in chapter 4.

2.162 The Australian Workers' Union (AWU) was one of many organisations who raised concerns about the omission of the GFC from the Treasury modelling. Mr Paul Howes, the National Secretary of the AWU stated that there is a need for further Treasury modelling, 'The reality is that [inaudible] modelling was done previously and we are living in a whole different world now.'¹²⁰

2.163 The committee notes that the government, not unpredictably, argues that introducing the CPRS will be beneficial in the current 'uncertain' environment:

In these uncertain times, there is a strong imperative to provide certainty to industries on future climate change policy so that investment and other business decisions can be made in the full knowledge of future policy settings.¹²¹

2.164 This argument was effectively countered by the witnesses at the receiving end of the current economic downturn, who informed the committee that the GFC was impacting the ability of businesses, and sometimes entire sectors, to obtain credit.¹²² The Energy Networks Association (ENA) further commented that for the electricity generation sector:

...the convergence of CPRS implementation with the current global financial crisis have meant energy network businesses face a less certain business environment than at any time in the past 20 years.¹²³

2.165 A multitude of witnesses raised serious concerns about the impact the GFC will have on the ability of business to cope with the additional cost imposed as a result of the CPRS as proposed. Many witnesses called for the GFC to be taken into account in the design of the CPRS.

2.166 The MCA explained how falling demand for commodities has led to falling prices, already resulting in job losses, even before the implementation of any ETS. For these reasons the MCA argued that the GFC should be taken into account in the design of the CPRS, citing a need for a 'slow, measured approach.'¹²⁴ Mr Mitchell Hooke, Chief Executive of the MCA further explained 'that is not to be misconstrued as an argument for doing nothing and for delay. It is an argument for getting the

120 Mr Paul Howes, National Secretary, Australian Workers' Union (AWU), *Committee Hansard*, 2 February 2009, p. 73.

121 Australian Government, *White Paper*, December 2008, p. xvi.

122 Ms Savage, ESAA, *Committee Hansard*, 2 February 2009, p. 29.

123 Mr Andrew Blyth, Chief Executive Officer, Energy Networks Association (ENA), *Committee Hansard*, 2 February 2009, p. 44.

124 Mr Hooke, MCA, *Committee Hansard*, 8 December 2008, p. 11. See also pages 3-11.

framework right'¹²⁵ The MCA further argued that the CPRS is inflexible and ill suited to adjusting to sudden changes in the economy.¹²⁶

2.167 BlueScope Steel explained to the committee that the GFC has had a very significant impact on their production levels. Mr Cornish stated:

Because the markets have been so poor since October, we have substantially pulled back our production in order to try to match our production to a very thin market. So right now our production has pulled back substantially in reaction to the global financial crisis.¹²⁷

2.168 Mr Cornish explained that the GFC makes it even more difficult for BlueScope Steel to bear the additional costs imposed as a result of the CPRS:

Our ability to be able to sell our product profitably in Australia, when we have imports coming in from producers that do not have a carbon tax, will be made more difficult and our ability to sell our steel overseas—half the production of the Port Kembla steelworks is exported—bearing a tax that none of our competitors have, particularly in this global financial crisis where margins are nonexistent, will also be more difficult.¹²⁸

2.169 Councillor George Creed, Mayor of the Gladstone Regional Council, informed the committee that for the people of the Gladstone region:

..the crisis is on. I think there were another 45 jobs lost yesterday up at the Rio Tinto expansion. At this stage there are certainly hundreds and probably thousands of people who have lost their jobs.¹²⁹

2.170 The committee received some evidence to the effect that as the GFC is a short term factor, it will not greatly affect the decisions of organisations. Chevron Australia explained that while the GFC adds complications in the consideration of investment decisions, all of its projects are long term investments, and a long term view of the economics is generally taken.¹³⁰

2.171 The Australian Chamber of Commerce and Industry noted that while the GFC may be a short term issue:

It certainly adds pressure to business because, as I indicated, business is under pressure with declining sales, and profitability being squeezed, so adding anything to the cost side of a business operation at the moment, or

125 Mr Hooke, MCA, *Committee Hansard*, 8 December 2008, p. 11.

126 Mr Coates, MCA, *Committee Hansard*, 8 December 2008, p. 3.

127 Mr Cornish, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 35.

128 Mr Cornish, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 35.

129 Councillor George Creed, Mayor, Gladstone Regional Council, *Committee Hansard*, 7 April 2009, p. 23.

130 Mr Peter Eggleston, External Affairs Manager, Chevron Australia, *Committee Hansard*, 18 February 2009, pp 25-26.

even the expectation of that, makes business wonder how it will be able to cope with that potential cost impact, and that is on the basis of declining business and consumer confidence attributable to the global financial crisis.

...

In the meantime, Australian business has to compete and export, and profitability margins are becoming a lot tighter, so we certainly do not want to see a scheme imposed that makes that transition any more difficult than it will otherwise be. That is why we are very much supportive of a so-called slow or soft start, especially before competitor countries have not necessarily adopted the same scheme.¹³¹

2.172 The AWU made it quite clear that the GFC has impacted severely on industry in Australia:

We are now confronting a crisis in the steel sector and in the aluminium sector, and it is a crisis that in our thinking is unprecedented. As long as we have been making steel here in Australia, since 1921, we have never had a situation as bad.¹³²

When I am going around the country at the moment (inaudible) looking at aluminium refineries that have ramped down their capacity in New South Wales (inaudible) and you hear about large-scale construction jobs in Queensland being built with Indian steel and Brazilian aluminium...¹³³

2.173 Mr Stuart Ritchie, the National Sustainability Manager of Cement Australia explained the impact the GFC has had on demand for cement:

We have certainly seen a significant decrease in demand across our business as a whole. Currently, one kiln in our New South Wales plant at Kandos has been closed, and we estimate that it will be closed for 12 months. That is something that I have not seen in my 13 years in the industry; so we are certainly seeing an impact. My understanding is that the sales downturn at the moment is of the order of 15 to 20 per cent.¹³⁴

2.174 The Chief Executive of BlueScope Steel informed the committee that the GFC has already had a dramatic impact on employment in the steel industry:

...this global crisis has been extremely severe in steel, as it has been in other parts of the world and other industries in Australia. As a result, we have had a circumstance where several hundred contractors have been removed from their daily activities at the steelwork in their role of supporting the steelwork's operations. We have had many areas of our plant

131 Mr Gregory Evans, Director, Economics, Australian Chamber of Commerce and Industry, *Committee Hansard*, 8 December 2008, pp 66 and 64.

132 Mr Howes, AWU, *Committee Hansard*, 2 February 2009, p. 72.

133 Mr Howes, AWU, *Committee Hansard*, 2 February 2009, p. 76.

134 Mr Stuart Ritchie, National Sustainability Manager, Cement Australia, *Committee Hansard*, 7 April 2009, p. 6.

shut down for long periods of time over Christmas and in the Easter period, with employees using up all their annual leave and making inroads into their long service leave. We have had some small amount of retrenchments at this stage, but the aim is to try and effectively hold on to as many employees as possible. But the bottom line is that it is a pretty tough environment; the sense is that it looks like it might be getting tougher... those several hundred contractors have a big impact on the local economy through the indirect employment affect, and we have many people on leave while we try to hold on to the workforce as long as we can.¹³⁵

2.175 Mr Cornish further explained the business environment that industries now have to work in:

These are very, very difficult times for most businesses in Australia today. The international market, of which we are a large exporter, is very, very weak, prices are at very low levels and domestic demand is very soft. So we are basically working really hard in order to make sure we get through this crisis. I do not believe that we have any capacity from next year to take on a tax that would not apply to all our competitors in the global marketplace...¹³⁶

2.176 As discussed in chapter 7, the committee also heard evidence from the Australian Coal Association regarding the impact of the GFC on jobs in the coal mining industry, which at that time was 3000 declared redundancies.¹³⁷

2.177 In a last minute development the government acknowledged the impact of the GFC by announcing a number of changes to the proposed CPRS on 4 May 2009. However the government is yet to commit to any Treasury modelling of the impact of the proposed CPRS on the economy and jobs in the context of the current global economic downturn.

Energy Security

Australia's energy supply

2.178 Australia is fortunate to be rich in energy resources.

Australia is one of the few developed countries to be a significant exporter of energy. It is the largest exporter of coal and one of the largest exporters of liquefied natural gas (LNG). More than three-quarters of black coal produced in Australia is exported. Uranium exports are also significant, accounting for 34% of Australia's energy exports. Around 53% of Australia's consumption of crude oil and LPG is met by domestic

135 Mr Cornish, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 30.

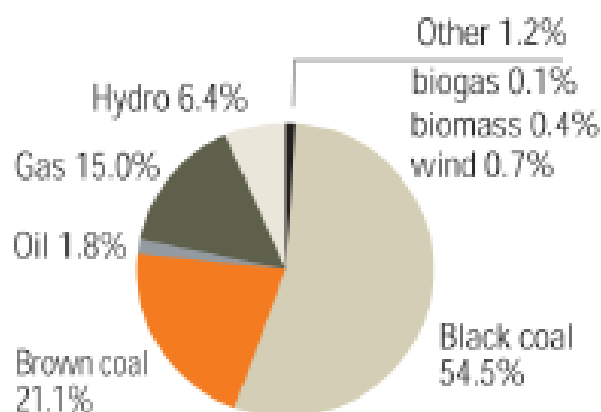
136 Mr Cornish, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 30.

137 Mr Ralph Hillman, Executive Director, Australian Coal Association, *Committee Hansard*, 2 April 2009, p. 3.

production. Australia is a net importer of crude oil and petroleum products, but a net exporter of LPG.¹³⁸

2.179 Figure 1 shows that the majority of Australia's electricity, some 75.6 per cent is generated from coal, while 15 per cent is from gas with renewables making up a small share.

Figure 2.1 Shares in Australian electricity generation by fuel, 2005-06



Australian Bureau of Agricultural and Resource Economics, *Energy in Australia 2008*, 2008, p. 40.¹³⁹

2.180 Electricity is supplied to the majority of the east coast of Australia via the National Electricity Market (NEM), which is an integrated eastern states grid. An important distinction in Australia's energy supply is that Western Australia is not connected to the NEM which has implications for energy security for Western Australia.

2.181 The stationary energy sector in Western Australia is extensively reliant on gas. The Western Australia Department of Treasury and Finance explained to the committee:

Thirty-five per cent of our stationary energy is derived from coal compared to 89 per cent in New South Wales and the ACT. We do not have one fully integrated grid, unlike under the National Electricity Market. We have a number of pipelines and one integrated grid, which is the South West Integrated System...And we have what is called the North West Integrated System, which supplies energy to the north-west of the state, but the term 'integrated system' is probably a bit optimistic. It is not integrated; it is a piecemeal system. So we do not have in any form a fully integrated system supplying energy to Western Australians.¹⁴⁰

138 Advice provided by the Parliamentary Library.

139 This excludes solar, wave and geothermal.

140 Ms Amy Lomas, Assistant Director, Emissions Trading Unit, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 17 November 2008, p. 113.

Energy security in Australia

2.182 The committee received considerable evidence from submitters and witnesses regarding the importance of energy security to the Australian economy and standard of living. The Australian Council of Social Service for example, stated that 'we regard energy as an essential service. For all but very few Australians, reliable and affordable electricity or gas supply is a fundamental to life as we know it.'¹⁴¹ Similarly, the ESAA stated that 'Secure, reliable and competitively priced energy is essential to the effective functioning of all aspects of modern economies.'¹⁴²

2.183 The National Generators Forum also highlighted the importance of electricity stating:

Electricity generation is an integral input to virtually all production and consumption activities in the economy. It is responsible for about 35 per cent of national emissions and will initially represent about 50 per cent of the scheme's coverage.¹⁴³

2.184 One of the common themes of the evidence received by the committee in relation to energy security was the importance of a variety of energy sources. For example, Mr Howes from the AWU expressed the view that 'I believe it is important when we are addressing the energy security of the nation that we put all options on the table.'¹⁴⁴ As discussed in chapter 9, the committee received evidence arguing that nuclear power should be included in the mix of Australia's energy sources.

2.185 Mr Graham Armstrong from the National Institute of Economic and Industry Research argued that adding renewables to the energy mix increases security.¹⁴⁵ ResourcesLaw International supported this argument, stating 'energy source diversity is the bedrock of robust energy systems'¹⁴⁶

2.186 Witnesses also communicated the capital intensity of electricity generation and supply and the need for investor certainty. Some witnesses, including the ENA highlighted the need for significant investment in infrastructure to ensure energy supply.¹⁴⁷

141 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service, *Committee Hansard*, 19 February 2009, p. 2.

142 Energy Supply Association of Australia (ESAA), *Submission 74*, p. 1.

143 Mr John Boshier, Executive Director, National Generators Forum, *Committee Hansard*, 2 February 2009, pp 2-3.

144 Mr Howes, AWU, *Committee Hansard*, 2 February 2009, p. 73.

145 Mr Graham Armstrong, Associate Consultant, National Institute of Economic and Industry Research, *Committee Hansard*, 17 February 2009, p. 23.

146 ResourcesLaw International, *Submission 79*, p. 4.

147 Mr Blyth, ENA, *Committee Hansard*, 2 February 2009, p. 44.

2.187 The committee received evidence about the impact of the CPRS on energy security, including the negative impact on investment in energy infrastructure at a time when additional investment is needed. Chapter 6 explores this evidence.

Energy security in Western Australia

2.188 As stated above, Western Australia has particular issues when considering energy security. Griffin Energy outlined the issues faced by Western Australia:

There is an additional aspect specific to the Western Australian context that should be highlighted. The Western Australian electricity market is an energy island—that is, not interconnected to any other electricity system. As such, the WA market needs to be self-sufficient when managing its long-term system security. The WA market is also characterised by a high reliance on gas relative to other Australian jurisdictions. The gas used to generate electricity is sourced primarily from fields 1,600 kilometres away and connected to the southwest by a single pipeline. These fields are mostly controlled by international oil and gas majors, with a predominant focus on the export LNG market. At issue is that the WA electricity market is already exposed to significant security of supply risk, evidenced just last year by both the Varanus Island explosion in June and the North West Shelf joint venture supply interruption in January.¹⁴⁸

2.189 Dr Paul Simshauser, a Director of the National Generators Forum, in considering energy security issues in Western Australia, stated 'There is no doubt that keeping system security in Western Australia is a much tougher proposition because of its geographic isolation.'¹⁴⁹

2.190 As further discussed in chapter 6, the committee received evidence that the CPRS does not adequately address Western Australian energy security issues.

Role of renewable energy in meeting Australia's energy supply needs

2.191 As discussed in chapter 9, the committee received evidence that the CPRS will not provide the incentive necessary to generate sufficient investment in the low emissions technology required to reduce emissions.

2.192 While the purpose of the CPRS is to meet an overall emissions target efficiently and effectively, the evidence presented in chapter 9 suggests that the CPRS has not met this purpose with respect to renewable energy.

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

149 Dr Paul Simshauser, Director, National Generators Forum, *Committee Hansard*, 2 February 2009, p. 7.

2.193 Further, the committee received a significant amount of evidence regarding the difficulties associated with relying on renewable sources for energy, particularly due to the intermittent nature of many renewable energy sources.

2.194 Western Power noted that while wind energy would be the most likely renewable energy to be integrated into its system, a problem remains in the inability to store the energy produced by wind.¹⁵⁰

The challenge with something like wind turbines is that what often is ignored in the cost is that you actually have to balance the wind that it is not always producing, so you need some storage mechanism or some alternate mechanism to go with it.

In Western Australia currently we have to use gas turbines. So the gas turbines follow the wind up and down to balance it, to keep the output there, which means they are running inefficiently and costing a whole lot more than they would otherwise do if the wind was not there. So you actually bring in a whole lot of extra costs that you would not otherwise have. That is why you need a good storage mechanism like a hydro scheme or something, or batteries or other options.

...

...coal-fired power stations are not designed to ramp up and down to meet load...If we start turning them on and off, they will fail. They are not designed to do that. The other source of generation we have is combined cycle gas turbines, which are also not designed to go up and down. So we have a large chunk of our generation that cannot go up and down. If we then start putting in lots of wind that does go up and down, whether we like it or not, the challenge is that we either have to turn it off for 50 per cent of the time, damage our generation, start turning other generation off or start putting much less economic generation on.¹⁵¹

2.195 Western Power informed the committee of technologies being developed to address the intermittency issue, "There are things such as what we are calling the smart grid, which is load-generation control, to try to balance that as the wind output goes up and down."¹⁵²

2.196 Mr Paul Graham a Theme Leader in Energy Futures at the CSIRO explained a possible storage method for solar thermal power:

...a relatively simple method of storing. You are not storing electricity; essentially you are storing heat, and heat is easier to store than is storing

150 Mr Phil Southwell, General Manager, Strategy and Corporate Affairs, Western Power, *Committee Hansard*, 17 November 2008, pp 25 and 30.

151 Mr Southwell, Western Power, *Committee Hansard*, 17 November 2008, pp 27 and 30.

152 Mr Southwell, Western Power, *Committee Hansard*, 17 November 2008, p. 31.

electricity. I understand that it is much closer than is anything else to being able to be a genuine low-cost storage option for solar thermal power...¹⁵³

2.197 Dr Michael Ottaviano, Managing Director of the Carnegie Corporation explained to the committee that wave energy can also provide a 'zero emission baseload form of renewable energy'.¹⁵⁴ Dr Ottaviano pointed out that wave energy is consistent, is typically located close to load sources, as 80 per cent of Australians live within 100 kilometres of the coast line, and is abundantly available.¹⁵⁵

The waves will actually never go on and off. The waves are always there. Your power supply will increase and decrease with the swell of the wave height, and you will know that two or three days in advance, so you can manage that easily. The other advantage we have got is that if there is no demand you can in fact just bleed the water back through the circuit and back out to the ocean and not generate power.¹⁵⁶

2.198 The CSIRO noted that the potential for geothermal hot fractured rocks to provide large scale baseload renewable power has been widely discussed, though it has not yet been commercially demonstrated.¹⁵⁷

2.199 Western Power advised the committee of the difficulties associated with integrating renewable energy sources into the transmission network:

If we are looking at wind, for example, which is currently considered to be the most viable renewable, generally the wind tends to be where there is no power system and where there is no load.¹⁵⁸

2.200 This was supported by Mr Andrew Blyth, Chief Executive Officer of ENA who stated:

If we do not have that network infrastructure there, we just cannot transport that new energy source to homes and businesses...you might have a wind farm where it is windy, but people do not live there. It has to travel vast distances—thousands of kilometres sometimes. The research that we would like to do in that area is about reducing the loss of that electricity power between point A and point B.¹⁵⁹

153 Mr Paul Graham, Theme Leader, Energy Futures, Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Committee Hansard*, 19 November 2008, p. 20.

154 Dr Michael Ottaviano, Managing Director, Carnegie Corporation, *Committee Hansard*, 17 November 2008, p. 64.

155 Dr Ottaviano, Carnegie Corporation, *Committee Hansard*, 17 November 2008, p. 63.

156 Dr Ottaviano, Carnegie Corporation, *Committee Hansard*, 17 November 2008, p. 70.

157 Mr Graham, CSIRO, *Committee Hansard*, 19 November 2008, p. 19.

158 Mr Southwell, Western Power, *Committee Hansard*, 17 November 2008, p. 27.

159 Mr Blyth, ENA, *Committee Hansard*, 2 February 2009, p. 50.

2.201 Western Power further noted consumers will be paying higher prices for energy without a renewable option for a number of years, due to the long lead times required to build transmission lines, particularly if they have to extend to remote locations where the wind power is generated.¹⁶⁰

Committee comment

2.202 The committee is of the view that the priority in addressing climate change needs to be to reduce global emissions. Therefore the reduction of global emissions should be the central aim in any Australian action.

2.203 The committee is of the view that more work needs to be done to formulate a more appropriate way for Australia to contribute to reducing global carbon emissions. It is more important to get the design of any scheme adopted by Australia right than rushing to chase arbitrary political deadlines. It is the view of the committee that the government needs to go back to the drawing board with the objective of finding the best, most cost efficient approach to reducing global greenhouse gas emissions while not putting any undue pressure on Australia's economy and jobs, or putting Australia's energy security at risk.

2.204 The committee considers that it would be beneficial for a quantitative comparison of possible alternative policies to be undertaken.

2.205 The committee notes the impact of the global financial crisis on industry and is of the view that it needs to be taken into account in the design of any Australian scheme.

Recommendation 1

2.206 The committee recommends that the government reconsider its proposed approach to how Australia can best contribute to a reduction in global greenhouse gas emissions.

Recommendation 2

2.207 The committee recommends that any Australian emissions trading scheme be designed such that it encourages:

- (a) economic activity and growth in Australia which helps reduce overall global greenhouse gas emissions, even if it means an increase in domestic emissions;**
- (b) Australian businesses operating at world's best environmental practice in terms of their level of domestic emissions, rather than to disadvantage them compared to any less environmentally friendly overseas competitors.**

160 Mr Southwell, Western Power, *Committee Hansard*, 17 November 2008, pp 34-35.

Recommendation 3

2.208 The committee recommends that the government assess and more properly explain publicly the advantages and disadvantages of all the policy and design options aimed at reducing global greenhouse gas emissions that have been raised so far.

Recommendation 4

2.209 In particular, the committee recommends that before any Australian emissions trading scheme is implemented, the government demonstrates much more clearly than it has so far, how it will be:

- (a) environmentally effective – that is how it will help reduce global emissions;
- (b) economically responsible – that is it will not put more Australian jobs at risk for no environmental gain; and
- (c) mindful of Australia's energy needs into the future – that it will not put Australia's energy security at risk.

Chapter 3

The Proposed Carbon Pollution Reduction Scheme

Introduction

3.1 This chapter outlines the Carbon Pollution Reduction Scheme (CPRS) including the major differences between the *Carbon Pollution Reduction Scheme: Green Paper* (the Green Paper) and the *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper* (the White Paper). The committee received extensive feedback regarding the limitations of the proposed CPRS. Chapter 3 will explore the issues raised including the questionable environmental benefits of the scheme in terms of reducing global emissions, the proposed timing of the implementation of the scheme, and the lack of recognition of individual action.

What is the CPRS?

3.2 The government has stated that the CPRS is the 'centrepiece of Australia's domestic emissions reduction strategy'.¹ It is a cap and trade based emissions trading scheme.

The Green Paper

3.3 The Green Paper was essentially a consultation document which set out the government's initial proposed approach for the establishment of an Australian emissions trading scheme (ETS), and presented options and preferred approaches to various issues.²

3.4 The government stated that the Green Paper was informed by consultations undertaken from March to June 2008, by the *Garnaut Climate Change Review: Final Report* and the work of the Task Group on Emissions Trading and the National Emissions Trading Taskforce.³

3.5 The Green Paper was released on 16 July 2008. This was followed by consultation from July to September 2008.

1 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper (White Paper)*, December 2008, p. 1.9.

2 Australian Government, *Carbon Pollution Reduction Scheme: Green Paper (Green Paper)*, July 2008, p. 9.

3 Australian Government, *Green Paper*, July 2008, p. 11.

Key content

3.6 The Green Paper outlined a cap and trade approach to an ETS, under which a cap is set, and the government issues carbon pollution permits equal to that cap. Emitters must obtain permits, monitor their emissions, and at the end of each year, must provide a permit for each tonne of emissions they produced in that year.⁴

3.7 The scheme proposed very broad coverage, including all six greenhouse gases listed under the Kyoto Protocol: carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons and perfluorocarbons.⁵

3.8 The Green Paper proposed coverage of 75 per cent of Australia's emissions including the following sectors: stationary energy, transport, industrial processes, waste, and fugitive emissions. Forestry would be included from commencement on a voluntary 'opt-in' basis, while agriculture would not be covered until 2015. Obligations would apply to facilities which directly emit 25 000 tonnes of carbon dioxide equivalent per year or more.⁶

3.9 The Green Paper noted that the proposed scheme would be designed to link with schemes developed overseas.⁷

3.10 The Green Paper proposed to use the *National Greenhouse and Energy Reporting Act 2007*, introduced by the previous government, as the basis for a single national emissions reporting framework and the establishment of an independent scheme regulator. The regulator would have the role of monitoring and enforcing compliance, running permit auctions, allocating free permits and maintaining the national emissions registry.⁸

3.11 The Green Paper also provided for assistance to households, business, regions, workers, emissions-intensive trade-exposed industries and strongly affected industries.⁹

Issues raised

3.12 A number of issues relating to the scheme as proposed in the Green Paper were raised with the committee. The overwhelming majority of these were to do with the definition of emissions intensive trade exposed (EITE) industries and strongly

4 Australian Government, *Green Paper*, July 2008, p. 12.

5 Australian Government, 3. *Scheme Coverage*, Fact Sheet, July 2008, available at <http://www.climatechange.gov.au/greenpaper/factsheets/index.html> (accessed 21 April 2009).

6 Australian Government, 3. *Scheme Coverage*, Fact Sheet, July 2008, available at <http://www.climatechange.gov.au/greenpaper/factsheets/index.html> (accessed 21 April 2009).

7 Australian Government, *Green Paper*, July 2008, pp 23-24.

8 Australian Government, *Green Paper*, July 2008, pp 23 and 31.

9 Australian Government, *Green Paper*, July 2008, pp 24-31.

affected industries, and the assistance afforded to them under the Green Paper. These are discussed in chapter 5. To an extent, some of the concerns raised with the committee were addressed by the White Paper, as explained below.

The White Paper

3.13 On 15 December 2008, the White Paper was released, setting out the government's decisions on the design and operation of the CPRS.¹⁰

3.14 This section sets out the aspects of the White Paper on which the committee received evidence. The concerns expressed to the committee about the White Paper then follow.

Key content

3.15 The White Paper largely retained the same main elements of the scheme as outlined in the Green Paper, but provided further detail or clarification on various aspects.

3.16 The White Paper articulated the government's medium term emissions reduction target as follows:

The target range for emissions reductions to be achieved by 2020 will be from 5 per cent to 15 per cent below 2000 levels.

The range represents:

- a minimum (unconditional) commitment to reduce emissions to 5 per cent below 2000 levels by 2020 (projected to be a 27 per cent reduction in per capita terms)
- a commitment to reduce emissions by up to 15 per cent below 2000 levels by 2020 (projected to be a 34 per cent reduction in per capita terms) in the context of global agreement under which all major economies commit to substantially restrain emissions and advanced economies take on reductions comparable to Australia.

The Government recognises that ambitious global action is in Australia's national interest.

In the event that a comprehensive global agreement were to emerge over time, involving emissions commitments by both developed and developing countries that are consistent with long-term stabilisation of atmospheric concentrations of greenhouse gases at 450 ppm CO₂-e or lower, Australia is prepared to establish its post-2020 targets so as to ensure it plays its full role in achieving the agreed goal.¹¹

10 Parliamentary Library, *Carbon Pollution Reduction Scheme*, Climate Change Web Publication, <http://www.aph.gov.au/library/pubs/ClimateChange/governance/domestic/national/cprs.htm> (accessed 15 April 2009).

11 Australian Government, *White Paper*, December 2008, p. 4.17.

3.17 An indicative national emissions trajectory was also outlined in the White Paper:

The national emissions trajectory represents the national emissions reduction commitment over the period covered by the trajectory as a whole. It is not a projection of expected actual emissions for that period.¹²

...

The first indicative national emissions trajectory will be:

- in 2010–11, 109 per cent of 2000 levels
- in 2011–12, 108 per cent of 2000 levels
- in 2012–13, 107 per cent of 2000 levels.¹³

3.18 The government confirmed scheme caps and gateways in the White Paper as follows:

The Government will specify Scheme caps for at least five years in advance. In addition, up to a further 10 years of guidance will be provided through the establishment of ‘gateways’ or ranges within which future Scheme caps will lie. To maintain five years’ guidance, Scheme caps will be extended by one year, every year. Gateways will be extended for five years, every five years.

The first five years of Scheme caps will be announced in 2010, before the Scheme commences and after the Copenhagen meeting of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol.¹⁴

3.19 The White Paper noted that, in terms of the auctioning of permits:

Allocations will, over the longer term, progressively move towards 100 per cent auctioning as the Scheme matures, subject to the provision of transitional assistance for emissions-intensive trade-exposed industries and strongly affected industries.¹⁵

3.20 The government provided for the international trade of permits in the White Paper:

The use of eligible international units for compliance in the Scheme will not be subject to any quantitative limitations.¹⁶

3.21 In respect of large electricity users, the White Paper stated:

12 Australian Government, *White Paper*, December 2008, p. 4.20.

13 Australian Government, *White Paper*, December 2008, p. 4.23.

14 Australian Government, *White Paper*, December 2008, p. xxxi.

15 Australian Government, *White Paper*, December 2008, p. lxvi.

16 Australian Government, *White Paper*, December 2008, p. lxix.

For large electricity users that consume more than 2000 gigawatt-hours a year at a single facility, contractual arrangements will be considered by the regulator to determine an entity-specific electricity allocation factor if those contracts were entered into before 3 June 2007 and remain in force on 1 January 2010.¹⁷

3.22 Some issues regarding legacy emissions from landfill sites were covered in the White Paper:

Emissions from landfill waste sites that closed prior to 30 June 2008 will not be included in the scheme. Emissions from waste deposited prior to 1 January 2009 will be excluded from the Scheme until 2018.¹⁸

3.23 Following a number of concerns raised regarding the EITE assistance, various aspects of the eligibility assessment and the quantum of the assistance provided for were altered. The government released the following table summarising the changes to the EITE assistance:

Table 3.1 Summary of EITE Assistance Changes

Issue	White Paper position	Green Paper position
Extension of assistance to activities at a lower level of emissions-intensity	The threshold for the 60 per cent rate of assistance has been lowered to apply to activities with an emissions-intensity between 1000 and 1999 t CO ₂ -e per million dollars of revenue or 3000 and 5999 t CO ₂ -e per million dollars of value-added.	The threshold for the 60 per cent rate of assistance was to apply to activities with an emissions-intensity between about 1500 and 2000 t CO ₂ -e per million dollars of revenue.
Metric for assessing emissions intensity	Emissions intensity, for the purposes of determining eligibility of an activity for receiving assistance under the EITE assistance program, will be assessed on either: - the weighted average emissions per million dollars of revenue generated by entities conducting the activity; or - the weighted average emissions per million dollars of value added generated by entities conducting the activity. Where an entity requests that the Government use this metric, the entity and Government will need to agree on which input costs will be adjusted to calculate a proxy for value added for the activity.	Relative carbon cost exposures of different activities assessed using emissions per million dollars of revenue.

17 Australian Government, *White Paper*, December 2008, p. 12.73.

18 Australian Government, *White Paper*, December 2008, p. B.5.

Emissions associated with the production of natural gas used as feedstock	Assessment of the eligibility of activities and the determination of the baseline allocations will include the cost increases related to the upstream emissions associated with the production of natural gas and its components when they are used as a feedstock.	No assistance should be provided for any upstream emissions costs other than those associated with electricity.
Period of assessment	Emissions-intensity will be assessed on estimates of revenue or value-added per unit of production in the period from 2004-05 to the first half of 2008-09.	Data from 2006-07 to 2007-08 used to assess eligibility.
Trade exposure test	Trade exposure of an activity will be assessed on either its trade share being greater than 10 per cent in any year since 2004-05 or a demonstrated lack of capacity to pass through costs due to the potential for international competition.	Any activity for which there was no physical barrier to trade would be considered for EITE assistance.
Carbon productivity contribution	Initial rates of assistance (90 or 60 per cent) accorded each EITE activity will be reduced by the carbon productivity contribution of 1.3 per cent per annum to ensure that EITE activities share in the national improvement in carbon productivity.	Rates of assistance to be reduced over time with the intent that the share of assistance to the EITE sector would not increase significantly over time.
Quantum of assistance	EITE industries will be allocated around 25 per cent of total carbon permits at the start of the Scheme (equivalent to around 35 per cent if agricultural emissions were included in the Scheme). Depending on growth in EITE industries and future global developments, EITE assistance could reach to around 45 per cent of permits by 2020. Eligibility thresholds or initial rates of assistance will not be readjusted or recalibrated in light of any subsequent information about the quantum of assistance likely to be provided as EITE assistance.	Up to around 30 per cent of total available permits to be allocated to entities conducting EITE activities, taking into account the likely allocation to EITE agriculture industries from any eventual inclusion of agricultural emissions in the Scheme.

Review of the EITE assistance program	The EITE assistance program will be reviewed every 5 years or at another date at the request of the Minister for Climate Change and Water in relation to: • whether additional activities should be considered for EITE assistance on account of changes in commodity prices or Scheme coverage • whether modifications should be made to the EITE assistance program on the basis of whether it continues to be consistent with the rationale for assistance, is conferring windfall gains on entities conducting activities and is appropriately balancing the competing policy objectives • whether assistance should be withdrawn because broadly comparable carbon constraints are applying internationally, at either an industry or economy-wide level, or an international agreement involving Australia and all major emitting economies is concluded.	Five year EITE review to examine similar issues though the Government did not canvass the inclusion of additional activities.
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Australian Government, *EITE Assistance Program: Changes from the Green Paper Position*, Fact Sheet, December 2008.

Issues raised

3.24 The majority of evidence the committee received about the changes to the scheme as set out in the White Paper noted that while the White Paper contained some improvements from the Green Paper, particularly in regard to EITE industries, significant further changes were necessary to protect Australia's trade exposed industries and prevent carbon leakage.

3.25 The Australian Industry Greenhouse Network (AIGN) noted:

The White Paper proposes an improved program of permit allocations emission intensive trade-exposed industry and Climate Change Action Fund (CCAF) grants for other industry. The proposed program, however, does not offset the competitive disadvantage of trade-exposed businesses, and losses of jobs and investment will be inevitable for minimal environmental gain.¹⁹

3.26 The AIGN further commented:

Importantly, the White Paper proposes to allocate permits to coal-fired electricity generators that will suffer considerable asset value loss under the emissions trading scheme. However, the level of compensation offered is just \$3.7 billion, whereas modelling published in the White Paper shows

¹⁹ Australian Industry Greenhouse Network (AIGN), answer to written question on notice, 14 January 2009 (received 23 January 2009).

losses around \$10 billion at a permit price of \$25/tCO₂. A fairer outcome is needed.²⁰

3.27 The Australian Aluminium Council (AAC) 'recognises that the proposed decay rate of 1.3 per cent is an improvement over options proposed in the Green Paper...' but argues that assistance should not be reduced over time if international competitors are not subject to comparative carbon costs.²¹

3.28 The AAC further noted the recognition of large electricity users in the White Paper, but commented that 'This is appropriate for existing contracts but is a threat to the viability of large users at the time of contract renewal.'²²

3.29 While organisations noted that under the White Paper the liquid natural gas (LNG) sector would be eligible for assistance, the DomGas Alliance drew attention to the fact that domestic natural gas production does not qualify for assistance, and the effects of this could be significant:

To the extent that the gas supplier is not able to pass onto its customers the carbon costs incurred at every step in the gas supply chain, this will distort investment decisions in favour of LNG over domestic gas. Where gas producers are able to pass on carbon costs to the domestic market, this will further increase the cost of natural gas for downstream industry.

The CPRS could cause serious domestic gas shortages, result in higher gas and electricity prices, lead to investment distortion, and undermine Australia's energy security.²³

3.30 Qantas noted their concern that aviation still does not qualify for transitional assistance under the CPRS, even though it is clearly energy intensive and trade exposed.²⁴

3.31 The South West Group welcomed the White Paper's proposed treatment of legacy emissions from the waste sector. However, the group noted that no financial assistance had been provided for local governments under the scheme as proposed, and that the treatment of landfill facilities in close proximity to each other creates an administrative burden for local government.²⁵

20 AIGN, answer to written question on notice, 14 January 2009 (received 23 January 2009).

21 Australian Aluminium Council (AAC), answer to written question on notice, 14 January 2009 (received 28 January 2009).

22 AAC, answer to written question on notice, 14 January 2009 (received 28 January 2009).

23 DomGas Alliance, answer to written question on notice, 14 January 2009 (received 23 January 2009).

24 Qantas, answer to written question on notice, 14 January 2009 (received 13 February 2009).

25 South West Group, answer to written question on notice, 14 January 2009 (received 21 January 2009).

3.32 The committee has also received evidence from the Mackay Regional Council, Gladstone Regional Council and the Wollongong Council that the costs associated with purchasing permits for landfill sites will have a significant impact on local government and will likely lead to the councils imposing increased charges.²⁶ Representatives of the Mackay Regional Council stated that the additional cost:

...could be an additional \$5 million a year in total in relation to carbon permits for this council.

...

Basically, we are talking about there being rate rises. That is effectively the only method we think would be able to fund those things.²⁷

3.33 The Energy Supply Association of Australia also noted that the scheme caps and gateways provided for in the White Paper are insufficient and will not provide investment certainty:

However, the White Paper's proposal to only commit to five years of firm Scheme caps is disappointing...the proposed timeframes for the Scheme caps and gateways do not appropriately balance certainty and flexibility... This is an inadequate timeframe for planning long-lived, capital intensive investments.²⁸

3.34 The Australian Petroleum Production and Exploration Association (APPEA) provided evidence to the committee that the change to the treatment of LNG from the Green Paper to the White Paper that provides for an allocation of permits:

...implies that the adverse impacts on the LNG may be lessened by White Paper's policy position compared to that proposed under the Green Paper. It remains the case, however, that the industry will face a significant cost impact not faced by its competitors and customers and that the growth and development prospects of the Australian LNG industry will be adversely impacted as a direct result.²⁹

Draft legislation

3.35 The exposure drafts of six pieces of legislation which the government stated will give effect to the White Paper were released on 10 March 2009. These are:

- Carbon Pollution Reduction Scheme Bill 2009

26 See evidence from Mackay Regional Council, *Committee Hansard*, 6 April 2009, pp 32 and 33; Gladstone Regional Council, answer to question on notice, 7 April 2009 (received 24 April 2009); Wollongong City Council, *Submission 90*, pp 2-3.

27 Mr Barry Omundson, Director, Commercial Services, Mackay Regional Council and Councillor Darryl Camilleri, Deputy Mayor, Mackay Regional Council, *Committee Hansard*, 6 April 2009, pp 32 and 33.

28 Energy Supply Association of Australia, *Submission 74*, p. 7.

29 Australian Petroleum Production and Exploration Association, answer to written question on notice, 14 January 2009 (received 30 January 2009).

- Carbon Pollution Reduction Scheme (Consequential Amendments) Bill 2009
- Australian Climate Change Regulatory Authority Bill 2009
- Carbon Pollution Reduction Scheme (Charges—General) Bill 2009
- Carbon Pollution Reduction Scheme (Charges—Excise) Bill 2009
- Carbon Pollution Reduction Scheme (Charges—Customs) Bill 2009

3.36 Mr Barry Sterland, Acting Deputy Secretary of the Department of Climate Change, informed the committee that:

The exposure draft reflects the policy positions that the government outlined in the white paper and provides a bit of further detail in some areas of how that policy will be implemented.

The legislation consists of six bills. The Carbon Pollution Reduction Scheme Bill is the main bill and includes all the key provisions. The Carbon Pollution Reduction Scheme (Consequential Amendments) Bill provides for amendments to existing legislation, particularly the National Greenhouse and Energy Reporting Act and taxation legislation, to accommodate the new scheme. The Australian Climate Change Regulatory Authority Bill provides for a new regulatory body to implement the Carbon Pollution Reduction Scheme, the renewable energy target and the National Greenhouse and Energy Reporting System. Three charges bills provide for charges to be imposed for the auction of Australian emission units or for the issue of units at fixed charge in the event that these are considered to be taxes for constitutional purposes. The Commonwealth does not consider these charges to be taxes and has taken an approach of abundant caution in case a court reaches a different view on these questions at some time in the future.³⁰

3.37 The report of the Senate Standing Committee on Economics on the exposure draft of this legislation was presented on 16 April 2009.

Prime Minister's announcement of 4 May 2009

3.38 On Monday 4 May 2009, the Prime Minister made a number of announcements relating to the design and implementation of the CPRS, including:

- A delay in the implementation of the CPRS from 1 July 2010 to 1 July 2011;
- Fixing the price of carbon permits until 1 July 2012;
- Protection for EITE industries for the first five years of the scheme under a 'Global Recession Buffer';

30 Mr Barry Sterland, Acting Deputy Secretary, Department of Climate Change, *Committee Hansard*, 2 April 2009, pp 62-63.

- The establishment of an Australian Carbon Trust;
- Funding for businesses to undertake energy efficiency measures from 1 July 2009; and
- A commitment to reducing Australia's carbon pollution by 25 per cent by 2020 if the world agrees to an ambitious global deal to stabilise levels of CO₂ equivalent at 450 parts per million or lower.³¹

Issues regarding the CPRS

3.39 Following is an overview of many of the issues raised by witnesses and submitters regarding the CPRS. The remainder of the report will discuss some of the issues raised with the committee in detail.

3.40 While the committee received evidence from a number of witnesses supporting an emissions trading policy approach in principle,³² many witnesses claimed the design of the CPRS as currently proposed was flawed in that it would not achieve the emissions reductions and low cost abatement opportunities that emissions trading schemes are intended to accomplish. This again highlights the point that not all emissions trading systems are the same and the importance of properly considering the particular design features of any scheme.

Lack of environmental benefit

3.41 The committee notes the comment of Professor Ross Garnaut:

The most inappropriate response would be to delude ourselves, taking small actions that create an appearance of action, but which do not solve the problem.³³

3.42 The AIGN highlighted the view that the focus should be on reducing global emissions:

If the best place to have the investment is here then that is where it ought to be, not somewhere else...we are talking about global emissions here. That is what is important. If the most efficient place to have them is in Australia then that is where they ought to be.³⁴

3.43 Mr Tony Westmore, Senior Policy Officer (Electricity) of the Australian Council of Social Service argued:

31 Australian Labor Party, 'A package of new measures for the CPRS', Media statement, 4 May 2009.

32 See also 'Policy options' section in chapter 2.

33 Professor Ross Garnaut, *Garnaut Climate Change Review: Draft Report*, p. 2.

34 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network (AIGN), *Committee Hansard*, 2 February 2009, p. 35.

...we think that the targets and trajectories have been set too low and are restrained in ways that are not going to be effective. So it is certainly a concern of mine that we are going to build this machinery that is not going to be very effective at all.³⁵

3.44 Ms Fiona Wain the Chief Executive Officer of Environment Business Australia further argued that the CPRS would not assist Australia in the transition to a low emission economy:

I do not think that the CPRS, as it is outlined in the white paper, is a true market mechanism and I do not think it will deliver what we have asked for it to deliver. If it is going to be maintained as it is written down in the white paper, we are going to need some significant bolt-ons such as an energy efficiency target, a renewable energy target, a gross feed-in tariff, a soil carbon program and a legacy draw-down program to make it work and to make it commercially viable.³⁶

3.45 Pacific Hydro explained that the CPRS as currently designed does not on its own provide enough financial incentive to invest in renewable energy:

You would need something north of \$60 per tonne to drive the transformational change. According to the current CPRS model that is out there, you actually do not start to see that price coming into the economy until after about 2035. That is on the CPRS minus five scenario, which is the very bottom line. Clearly, in that time, if that [the CPRS] were the only thing that you did, you would see barely any renewable energy built, and the modelling done on behalf of government demonstrates that from MMA. You would need a much higher carbon price to drive any form of changing the stationary energy sector.³⁷

3.46 The committee questioned Professor Warwick McKibbin about how environmentally effective the CPRS would be. Professor McKibbin agreed that the CPRS is not as economically responsible or environmentally effective as it could be.³⁸

3.47 Professor McKibbin stated 'I think you can do better than the system as it is designed.'³⁹

3.48 The Australian Conservation Foundation (ACF) was unequivocal in its criticism of the environmental outcome of the CPRS:

35 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service (ACOSS), *Committee Hansard*, 19 February 2009, p. 13.

36 Ms Fiona Wain, Chief Executive Officer, Environment Business Australia, *Committee Hansard*, 19 February 2009, pp 20-21.

37 Mr Andrew Richards, Executive Manager, Government and Corporate Affairs, Pacific Hydro, *Committee Hansard*, 2 April 2009, p. 40.

38 Professor Warwick McKibbin, *Committee Hansard*, 19 February 2009, p. 65.

39 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 65.

The Carbon Pollution Reduction Scheme, as outlined in the white paper, does not constitute an environmentally effective emissions trading scheme. We do not support the introduction of the scheme as it currently stands, due to the number of major flaws. The principal concern with the Carbon Pollution Reduction Scheme and the government's policy in regard to climate change is the weak target set to reduce our emissions by the year 2020. ...Unfortunately, the way the Carbon Pollution Reduction Scheme has been proposed not only sets that weak medium-term target but actually locks it in. It prevents us from seeing how the international negotiations progress, from seeing what happens internationally, from seeing what technological solutions come to the forefront and from being able to improve over time.⁴⁰

3.49 While Dr Brian Fisher, following questioning from the committee stated that in his opinion 'the scheme would reduce global emissions by a small amount',⁴¹ many industry representatives also expressed the view that they believe the CPRS will not lead to a decrease in global emissions, and would have a negative impact on the Australian economy and employment. For example BlueScope Steel stated:

...we believe the current scheme is going to lead to outcomes that do not reduce global greenhouse gas emissions and certainly it is not going to help the Australian economy or the people of the Illawarra.⁴²

3.50 The Cement Industry Federation argued that if the CPRS as outlined in the Green Paper was implemented:

...we might get to a situation where Australia reaches its cap. I have no doubt that we would do our darnedest as a nation to reach our cap, but we would simply add to the climate change problem. We could stand up nationally and say that we had reached our cap, but globally we would simply add to climate change. I think that is fraudulent.⁴³

3.51 Mr Michael Ison, Acting Executive Director of the Australian Aluminium Council (AAC) stated that the CPRS will lead to lost local production costing the Australian economy, while ultimately more carbon will be emitted into the global atmosphere.⁴⁴

Senator BUSHBY—Carbon leakage will shift. We effectively will lose production here to the cost of our economy and ultimately end up with

40 Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation (ACF), *Committee Hansard*, 2 February 2009, pp 77-78.

41 Dr Brian Fisher, *Committee Hansard*, 2 April 2009, p. 52.

42 Mr Alan Thomas, General Manager Engineering, Technology and Environment, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 28.

43 Mrs Robyn Bain, Chief Executive Officer, Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 107.

44 Mr Michael Ison, Acting Executive Director, Australian Aluminium Council (AAC), *Committee Hansard*, 8 December 2008, p. 38.

more tonnes of CO₂ gas and equivalents going into the atmosphere globally.

Mr Ison—That is correct, yes.⁴⁵

Timing of the implementation of the CPRS

3.52 An overwhelming number of witnesses who presented evidence to the committee explained that the foremost priority regarding the CPRS is ensuring the design of the scheme is appropriate, regardless of the government's preferred implementation schedule. As discussed in chapter 2, a number of witnesses highlighted the importance of not rushing the introduction of the CPRS especially given the current global financial crisis.

3.53 The Chamber of Commerce and Industry (CCI) of Western Australia stated:

...the implementation date is less important than getting a system designed that will work appropriately. Global action will also have a significant impact on it. So we are not saying that 2010 is a necessary start date. We would prefer to see a design put in place that could be fully supported by industry and would provide a solid foundation for a working scheme.⁴⁶

3.54 This was echoed by the Minerals Council of Australia (MCA):

Our view is that the time line for the start of an emissions trading scheme will look after itself if you get the framework right. Getting the framework right is the absolute, fundamental priority.⁴⁷

3.55 A number of concerns were raised regarding what some witnesses described as an 'ambitious' timetable for the implementation of the scheme.

3.56 Mr Gordon Keen, GHG Issue Manager from ExxonMobil Australia, explained how aggressive the proposed CPRS implementation timetable is and compared it with that of the European Union ETS:

...the schedule for implementation of an Australian ETS represents one of the most aggressive timetables ever contemplated. This approach stands in contrast to the preparation and implementation of the only broad based ETS that has been undertaken internationally, namely that in Europe. The EU commenced its planning for an ETS in 2000 and continued planning for five years before then implementing a trial system that was undertaken for a further three years. This was a planning process and trial that experienced

45 Senator David Bushby, Member of the Senate Select Committee on Fuel and Energy, and Mr Ison, AAC, *Committee Hansard*, 8 December 2008, p. 38.

46 Mr Andrew Canion, Senior Adviser, Industry Policy, Chamber of Commerce and Industry (CCI) of Western Australia, *Committee Hansard*, 17 November 2008, p. 14.

47 Mr Mitchell Hooke, Chief Executive, Minerals Council of Australia (MCA), *Committee Hansard*, 8 December 2008, p. 5.

significant difficulties across its implementation, even up to the closing months of that trial in 2007.

The lessons from the European experience may not even now be fully understood. Despite this example, the Australian government is proposing to implement an ETS in under two years. This aggressive schedule poses a potentially significant implementation risk.⁴⁸

3.57 Chevron Australia further demonstrated this point, referring to the example of the North American acid rain program:

We are looking at a period of less than six months between having the legislation in place and having the scheme go live, and we feel that is perhaps fraught with difficulties for government and industry in terms of preparing for its implementation. It runs the risk that we will go into a scheme and there will be difficulties, teething problems, in the first years that will need to be rectified, and that will mean changes to legislation and what have you. We do not think that is in anybody's interest.

If you contrast that with the North American acid rain program, after they passed legislation for that program, it was three or four years before the scheme actually went live. That provided three or four years where government could get its regulatory framework established and running and where industries, in particular, could prepare for its implementation. That scheme, in contrast to, say, the European emissions trading scheme, has worked, and it has worked successfully from day 1. That is an illustration of how important it is for the implementation of these things to be well thought through and to allow plenty of time for them to be implemented effectively.⁴⁹

3.58 The CCI of Western Australia questioned the rush to implement the scheme:

Given the relatively small emissions reductions target selected by Government CCI questions the need for urgent scheme commencement. A smaller target is more easily achieved and therefore delaying commencement is unlikely to have a significant impact on the nation's ability to meet its 2020 target. CCI believes the benefits that would accrue from having all industry sectors fully prepared for introduction of the CPRS would offset any short delay in commencement.⁵⁰

3.59 Some witnesses articulated concerns about delaying the implementation of the scheme, due to the detrimental impact any delay would have on business certainty,

48 Mr Gordon Keen, ANZ GHG Issue Manager, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, pp 42-43.

49 Mr John Torkington, Senior Adviser on Climate Change Policy, Chevron Australia, *Committee Hansard*, 18 February 2009, pp 26-27.

50 Chamber of Commerce and Industry of Western Australia, answer to written question on notice, 14 January 2009 (received 21 January 2009).

however the majority also highlighted the importance of getting the design right. As Ms Belinda Robinson the Chief Executive of APPEA explained:

There has been a lot of debate around whether we should delay or not. It is our view that we should not. It is our view not so much that we should not, but that the scheme must be designed properly to take into account the sorts of issues that we have raised. If it is designed properly when it is introduced really becomes irrelevant; it becomes delayed because more time is required to get the policy settings right, and that is one thing. But it is true that the longer we delay, the more uncertainty there is.⁵¹

3.60 A number of witnesses suggested that a trial, or 'soft start' approach be considered by the government as an alternative, allowing the scheme to be implemented without causing any harm to the economy and providing the opportunity to adjust the scheme as necessary after observing it in practice.

3.61 ExxonMobil Australia outlined such a suggestion to the committee in detail:

...our view is that serious consideration should be given to a phased approach similar to that used in the EU in which the early years of the proposed scheme are implemented fully but considered to be a trial to ensure that mechanisms chosen are appropriate and do not do undue harm to the Australian economy and the wellbeing of its citizenry. In a trial, market stabilisation measures such as a cost containment mechanism or price cap may also be tested to determine their effectiveness in reducing the risks and uncertainties associated with the emissions trading scheme. A trial period through to the end of the first Kyoto round in 2012 would appear to be allowable and appropriate, particularly if trends continue to indicate that Australia will meet its commitment at that time. Such phasing would also allow industry time to make the substantial physical and systems changes that will be required to operate within an ETS with a minimum of risk.⁵²

3.62 Mr Gregory Evans the Director Economics for the Australian Chamber of Commerce and Industry added further:

...the other reason for that soft start is that even at this stage we do not know the extent to which other countries will be joining the scheme and at what time that will happen, so we are still firmly of the view that we need to align our policy response with countries that we compete with.⁵³

3.63 Mr Peter Colley National Research Director from the Construction, Forestry, Mining and Energy Union argued that the scheme as currently proposed constitutes a soft start:

51 Ms Belinda Robinson, Chief Executive, Australian Petroleum Production and Exploration Association (APPEA), *Committee Hansard*, 19 November 2009, pp 37-38.

52 Mr Keen, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 43.

53 Mr Gregory Evans, Director Economics, Australian Chamber of Commerce and Industry, *Committee Hansard*, 8 December 2008, p. 66.

The fact that a substantial amount of compensation in the form of free permits has been allocated to emissions-intensive trade-exposed industries clearly is a soft start. The fact that compensation has been promised to strongly affected industries indicates a soft start...the scheme will have enough of a soft start that it will not impose high costs on energy.⁵⁴

3.64 Dr Brian Fisher summed up the debate:

I think extreme care needs to be taken and that is one of the reasons why I said previously that, if this scheme is going to be introduced on the current government's timetable, then one option would be to cap the price at, say, \$5 a tonne for a significant amount of time. I think there are good arguments for doing something like that. I think that we are going to have, at some point in time, an emissions trading scheme in the in [sic] Australian economy...Inevitably, as I also said before, this is the most complex piece of legislation and set of changes that have been proposed for the Australian economy probably ever, and we are trying to do it within a very short time frame. With the best will in the world, there will be mistakes, but at the same time, if we are going to have one of these things in the future, you should give industry the chance of having what you might call a practice run. Also, the regulators need a practice run.⁵⁵

An ambitious and complex scheme

3.65 A number of witnesses and submitters expressed concern that in adopting the CPRS, Australia would be committing itself to a more aggressive regime than other countries.

3.66 Mr Keen of ExxonMobil Australia expressed concern that due to the comprehensive nature of the scheme, the scale of its implementation could lead to confusion or error which would result in problems, and a lack of confidence in the scheme.⁵⁶

...[The CPRS is] the most complex and most advanced regulatory regime of its kind to be put forward by government anywhere in the world. The Australian ETS would be the first scheme to cover all greenhouse gases, include transport fuels, natural gas and fugitive emissions, and move to a hard start-up with significant auctioning of permits in 2010.⁵⁷

54 Mr Peter Colley, National Research Director, Mining and Energy Division, Construction, Forestry, Mining and Energy Union (CFMEU), *Committee Hansard*, 19 November 2008, p. 121.

55 Dr Fisher, *Committee Hansard*, 2 April 2009, pp 61-62.

56 Mr Keen, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 52.

57 Mr Keen, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 42.

3.67 Mr Michael Hitchens, Chief Executive Officer of AIGN, commented, 'at the moment the White Paper is committing Australia to something that is far more expensive than those comparable advanced countries.'⁵⁸

3.68 Mr Peter Coates, Chairman of the MCA, echoed these concerns, stating:

The proposed trading scheme is out of step with schemes being developed around the world. It goes further and faster than any comparable scheme either in existence or being contemplated. It is the world's most aggressive emissions trading scheme...No other emissions trading scheme has ever embraced full auctioning of permits, let alone from the start of the scheme...All of the emissions trading schemes in operation or being developed around the world adopt a phased approach to auctioning...⁵⁹

3.69 Dr Fisher added that the ambitious nature of the CPRS would have implications regarding the timing of the scheme's implementation:

We are proposing a scheme that is, as I understand it, the most ambitious scheme of this type contemplated anywhere. The government is a leader in terms of its ambition with respect to coverage and complexity with the scheme that is being introduced here. This has all sorts of implications in terms of uncertainty about investment in Australia and it is not clear to me at all that we can get the design of the current scheme right in the short period of time that has been allocated.⁶⁰

3.70 AIGN noted concerns that the emissions reduction targets set in the White Paper are too high:

AIGN endorses the White Paper test for setting Australia's emission budget at a level that is commensurate with "advanced economies taking on reductions comparable to Australia". Unfortunately, both the -5% and the -15% targets the Government intends committing Australia to, representing a 25% to 35% reduction in emissions relative to expected trends and a 34% to 41% reduction from 1990 per capita emission levels, are stronger than other wealthier countries including the EU, the USA and the UK. Further, Treasury modelling estimates that these targets mean that Australians could incur wealth losses 3 to 4 times higher than the losses that Europeans and Americans bear by 2020. AIGN advocates that Australian's shoulder a fair share of the global burden, no more and no less.⁶¹

3.71 The committee also heard evidence stating that the CPRS does not go far enough to encourage an effective global agreement, with the ACF calling for a commitment to cut emissions by between 25 and 40 per cent by 2020:

58 Mr Hitchens, AIGN, *Committee Hansard*, 2 February 2009, p. 41.

59 Mr Peter Coates, Chairman, Minerals Council of Australia, *Committee Hansard*, 8 December 2008, pp 2-3.

60 Dr Fisher, *Committee Hansard*, 2 April 2009, p. 53.

61 AIGN, answer to written question on notice, 14 January 2009 (received 23 January 2009).

...it is in Australia's national interests to achieve an effective international agreement. In order to bring about circumstances where an effective international agreement might come in, we would like to see our government advocating for targets that would be part of that effective agreement.⁶²

3.72 The committee has not been provided with any evidence of a discernable advantage to Australia flowing from 'leading the world' in introducing the most complex and aggressive emissions trading scheme. To the contrary, the anticipated negative impact on Australia's economy and jobs of such a scheme, without achieving a clear environmental benefit, would more than likely provide a disincentive for other nations.

Recognition of individual action to reduce emissions

3.73 The committee also heard concerns about the failure of the CPRS as currently designed to properly recognise and provide incentives for individuals and households to reduce emissions:

...the system as it is currently proposed means that if householders save energy the benefit is going to go to the large emitters...this really needs to be addressed.⁶³

3.74 This point was also made by Mr Tony Westmore of the Australian Council of Social Service:

...it seems to be true that the CPRS may act perversely to disincentivise people taking action to reduce emissions...simply because if you take action to reduce emissions you increase the number of permits that are available to other people—you might reduce the price of permits and you might actually encourage pollution.⁶⁴

3.75 The ACF raised concerns about:

...the lack of the ability of the Australian public to contribute to reducing emissions beyond the national target that is set. For example, if a householder decided to install solar panels on their roof after the Carbon Pollution Reduction Scheme came in, that would not deliver one kilogram of greenhouse gas reduction beyond the national target that has been set. It would only serve to reduce the cost of the Carbon Pollution Reduction Scheme. We think that is a serious flaw that needs to be addressed and can be addressed by a better designed system.⁶⁵

62 Mr Owen Pascoe, ACF, *Committee Hansard*, 2 February 2009, p. 79.

63 Dr Judy Messer, President, Futureworld National Centre for Appropriate Technology, *Committee Hansard*, 1 April 2009, p. 6.

64 Mr Westmore, ACOS, *Committee Hansard*, 19 February 2009, p. 9.

65 Mr Owen Pascoe, ACF, *Committee Hansard*, 2 February 2009, p. 78.

3.76 Dr Judy Messer, President of the Futureworld National Centre for Appropriate Technology, noted that one way of effectively recognising these efforts would be to:

...give these credits to not-for-profit environmental organisations that can demonstrate that they are working to encourage energy efficiency and energy conservation or to promote appropriate technologies.⁶⁶

3.77 The Australian Capital Territory (ACT) government also noted concerns that the CPRS would limit the ability of states and territories to contribute to further emissions reductions. The ACT Minister for Energy, the Hon. Mr Simon Corbell MLA noted:

...we are concerned that actions by states and territories to go beyond the targeted CPRS reductions may not achieve real emission reductions, as these actions may not correspond to fewer emission permits. Further investigation by the Commonwealth is required to identify whether efforts by states and territories to go beyond the targeted CPRS reductions can meaningfully contribute to reducing emissions...It is a significant concern of mine that state and territory jurisdictions may not be able to implement more stringent climate change policies that contribute to achieving real reductions in emissions...If this is the case, the coverage of the CPRS severely limits the scope for the ACT to take effective action on climate change.⁶⁷

Design issues

3.78 The committee also heard a broad range of concerns regarding the design of the scheme.

3.79 Professor McKibbin noted a series of problems with the CPRS, summarised as follows:

- horizons in the scheme are too short;
- the initial reduction commitment does not go far enough, and there is no flexibility to make deeper cuts if this is desired;
- as the price of carbon is determined by the market, short term price volatility could be quite high; and
- the scheme imposes a significant cost burden on industries which are already under pressure, reducing their capacity to innovate, and their ability to obtain finance.⁶⁸

66 Dr Messer, Futureworld National Centre for Appropriate Technology, *Committee Hansard*, 1 April 2009, p. 6.

67 Australian Capital Territory Government, answer to written question on notice, 16 January 2009 (received 23 February 2009).

68 Professor McKibbin, *Committee Hansard*, 19 February 2009, pp 64-65 and 68-69.

3.80 The Queensland Resources Council told the committee that they do not believe the design of the CPRS is flexible enough to deal with cycles in the economy:

Mr Roche—...we believe the design of an emissions trading scheme needs to be able to deal with the cycles of the economy. We are currently in a very difficult part of that cycle. There will be further such down-cycles in coming years, as it ever has been thus. So we are saying that an emissions trading scheme needs to be able to be calibrated to deal with the ups and downs of the economy rather than saying that there is something special about the current down-cycle such that we have to deal with the design of the scheme. We believe the design of the scheme needs to be able to cope with the ups and downs of the economy.

CHAIR—Do you think that the current design does that?

Mr Roche—Not to our satisfaction.⁶⁹

3.81 Chevron Australia noted that an organisation's ability to reduce emissions is not determined by the pricing of carbon:

...having to outlay that money to buy emissions permits does not actually change your motivation to reduce emissions. This is a fundamental problem with the CPRS. There seems to be a view behind the CPRS that firms have to physically be out of pocket to have any incentive to reduce emissions, and that is not the case. Our ability to reduce emissions is set by the price in the market and our marginal costs of abatement, not by whether we have permits allocated to us or have to purchase them—that is, a cost impost on an industry and on a project does not actually change the ability to reduce emissions anywhere.⁷⁰

3.82 The ACF took the view that the compensation provided for under the CPRS is 'excessive'.⁷¹ Mr Daniel Price, Managing Director of Frontier Economics explained that the compensation provided for creates distortions and inefficiencies when modelled.⁷²

3.83 Mr David Pearce, Executive Director of the Centre for International Economics described these inefficiencies to the committee:

...the idea of attempting to increase the carbon price in the economy and then shielding the people who you are wanting to influence with that price increase is inefficient. That is one layer of inefficiency. The other layer of inefficiency is that large organisations that will have large permit

69 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 20 February 2009, and Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, *Committee Hansard*, 20 February 2009, pp 29-30.

70 Mr Torkington, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 25.

71 Mr Owen Pascoe, ACF, *Committee Hansard*, 2 February 2009, p. 78.

72 Mr Daniel Price, Managing Director, Frontier Economics, *Committee Hansard*, 2 April 2009, pp 12-13 and 20-21.

requirements in order to operate, to the extent that they are purchasing auction permits, will essentially be transferring a lot of income to the Treasury. It goes off their balance sheet, if you like, and it makes it very hard for those organisations to raise funds and do the kinds of investments they may need to do in order to increase their energy efficiency.⁷³

3.84 Mr Price summarised the concerns of a number of witnesses stating:

I think that this scheme will be a catastrophe. I do think that it will not work, it is high cost and it will give emissions trading a bad rap...⁷⁴

International trading of permits

3.85 Various witnesses noted a series of possible issues associated with the ability to trade carbon permits internationally. In particular the committee heard concerns that the ability to import permits from overseas could result in no reductions in Australia's domestic emissions,⁷⁵ thus raising concerns about the environmental effectiveness of the scheme.

3.86 The summary of the Department of the Treasury's modelling report *Australia's Low Pollution Future: The Economics of Climate Change Mitigation – Summary*, stated:

International trade can reduce the cost of achieving emission reduction targets because it allows mitigation to occur wherever it is cheapest. Trade does not compromise the environmental objective, because Australia's 'excess' emissions are offset by lower emissions in economies that export permits.⁷⁶

3.87 Dr Fisher explained that there is a risk that as a result of international permit trading, the Australian carbon price will be driven by the international carbon price:

...under the current proposal, the Australian carbon price will basically be dominated by what the international carbon price is. According to the Treasury modelling, effectively we are doing a large share of our abatement by import of permits. The proposal is that our scheme be linked to international carbon prices. Because Australia is a small, open economy, the international carbon price will drive the Australian carbon price—there can be no doubt about that...⁷⁷

73 Mr David Pearce, Executive Director, Centre for International Economics, *Committee Hansard*, 2 April 2009, p. 29.

74 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 24.

75 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 23.

76 Australian Government, *Australia's Low Pollution Future: The Economics of Climate Change Mitigation – Summary*, October 2008, p. 25.

77 Dr Fisher, *Committee Hansard*, 2 April 2009, p. 56.

3.88 Mr Stephen Gale of the Futureworld National Centre for Appropriate Technology, noted that international trade in permits could result in Australian efficiencies being driven offshore:

...the purchase of permits from overseas should be restricted because we should be designing the scheme to drive for maximum efficiency in Australian industry. If we do not request that Australian industry be as efficient as possible there is a risk that we will lose global competitiveness by transferring those efficiency improvements to developing nations.⁷⁸

3.89 The committee considers that what matters is achieving a reduction in global greenhouse gas emissions and that as such the level of domestic emissions is not and should not be the primary consideration. In that context, the international trading of permits can be an important and appropriate part of a proper global framework to reduce greenhouse gas emissions.

Limitations of the Kyoto Protocol

3.90 Throughout the inquiry the committee heard evidence on issues regarding the Kyoto Protocol, which impact on how a domestic Australian ETS would operate.

3.91 Ms Robinson, of the APPEA, explained to the committee that while LNG produced in Australia increases domestic emissions, its export and substitution for coal in the generation of power in other countries leads to a global reduction in emissions. However, '...the Kyoto accounting rules do not enable the full benefits of those global savings to accrue back to Australia.'⁷⁹

3.92 Mr Michael Angwin, the Executive Director of the Australian Uranium Association, explained to the committee that the exclusion of nuclear power under the Kyoto Clean Development Mechanism is an 'unnecessary limitation':

There is a Clean Development Mechanism under the Kyoto protocol, and its purpose is to help mitigate greenhouse gas emissions where it is cheapest to do so. It supports, in effect, the investment by companies from developed countries in developing countries to build mechanisms for mitigating greenhouse gases where it is cheapest to do so. Currently, the Clean Development Mechanism does not permit nuclear power to be one of those mechanisms...⁸⁰

3.93 Mr Michael Keogh, Executive Director of the Australian Farm Institute, further explained this limitation on mitigation measures to the committee:

78 Mr Stephen Gale, Regional Director Climate Change, Futureworld National Centre for Appropriate Technology, *Committee Hansard*, 1 April 2009, p. 6.

79 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2009, p. 26.

80 Mr Michael Angwin, Executive Director, Australian Uranium Association, *Committee Hansard*, 8 December 2008, p. 19.

Under the current accounting methodologies, which we are bound to under the Kyoto protocol, the mitigation strategies are limited to reforestation—farm forestry. There is no opportunity, for example, to look at sequestration in soils or those sorts of things...It [the Kyoto Protocol] has locked us into a mode of accounting which dramatically limits the potential mitigation measures...⁸¹

3.94 When the Leader of the Opposition, the Hon. Malcolm Turnbull MP announced the Coalition's Green Carbon Initiative in January 2009, including a proposal to 'pursue sequestration of large quantities of carbon via biochar (the conversion of biomass into charcoal, which can be fixed in soil),'⁸² the Minister for Climate Change and Water, Senator the Hon. Penny Wong, responded on behalf of the government with the following statement:

Soil carbon (including biochar) does not fit within the scope of the current Kyoto Protocol accounts, so is not included at this time in the Carbon Pollution Reduction Scheme.⁸³

3.95 The committee considers that what matters is effective and cost effective action to reduce global greenhouse gas emissions. The accounting rules under the Kyoto Protocol are a secondary consideration. As such the committee is of the view that the design of any Australian initiative to contribute to global efforts to reduce greenhouse gas emissions should recognise and encourage all effective and efficient ways to reduce global greenhouse gas emissions irrespective of whether or not they are recognised under the Kyoto Protocol accounting rules.

Auctioning of permits

3.96 The committee heard concerns about the extent of auctioning of permits as proposed under the CPRS. The MCA explained:

The scheme proposes full auctioning, other than 20 per cent of free permits for a small proportion of Australia's trade-exposed sector. The result is that Australian businesses will pay the highest carbon costs in the world by a very wide margin. No other emissions trading scheme has ever embraced full auctioning of permits, let alone from the start of the scheme. For example, for the first eight years of the EU scheme, more than 98 per cent of permits will be issued free. Only after 2013 will some European firms have to buy some of their permits.⁸⁴

81 Mr Michael Keogh, Executive Director, the Australian Farm Institute, *Committee Hansard*, 19 February 2009, pp 35-36.

82 See the Hon. Malcolm Turnbull MP, Leader of the Opposition, 'The Coalition's Green Carbon Initiative', Press Release, 24 January 2009.

83 Bronwyn Herbert, 'Opposition supports Biochar research', *The 7:30 Report*, Transcript, Senator the Hon. Penny Wong, Minister for Climate Change and Water, 26 January 2009.

84 Mr Coates, MCA, *Committee Hansard*, 8 December 2008, p. 2.

3.97 The MCA argued that a phased approach to the auctioning of permits would be more appropriate, and would yield better results for the Australian economy:

Every single country that is looking at a cap and trade system is doing so on a phased approach to full auctioning...We have modelled our proposal, and it comes out that every single factor that you would expect to be critical, such as GDP, investment, employment, real after-taxes wages and exports, will be higher under a phased approach to auctioning.⁸⁵

3.98 While ExxonMobil Australia stated:

The Australian ETS would be the first scheme to cover all greenhouse gases, include transport fuels, natural gas and fugitive emissions, and move to a hard start-up with significant auctioning of permits in 2010.⁸⁶

3.99 ExxonMobil Australia also stated that they support 100 per cent auctioning of permits, subject to transitional measures, on the basis that it is a simple and equitable approach.⁸⁷

3.100 The Energy Supply Association of Australia argued that they are 'supportive of the White Paper's long term objective of moving towards 100 per cent auctioning of permits after sufficient administrative allocations have been made.'⁸⁸

3.101 BP Australia also stated that it supports full auctioning of permits with the exception of those allocated for EITE assistance.⁸⁹

Interaction of the CPRS with other regulation

3.102 The committee received evidence from the electricity generation sector raising concerns about the regulation of retail electricity prices. The National Generators Forum (NGF) informed the committee that, with the exception of Victoria, retail electricity prices are regulated at a state level. Mr Carlo Botto, a Director of the NGF noted that the CPRS will impact on the cost of energy, however:

Whether ultimately that cost is passed on to the consumer is a function of whether the retail price is allowed to reflect that increased cost...the imposition of the CPRS is a federal policy position but, right now, in most of the states of Australia the maximum price paid by the consumer is managed by the states. So we have to make sure that there is an ability to pass on the cost reflected in the price that is allowed to be charged.

85 Mr Hooke, MCA, *Committee Hansard*, 8 December 2008, p. 7.

86 Mr Keen, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 42.

87 Mr Keen, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 56; ExxonMobil Australia, *Submission 66*, p. 9.

88 Energy Supply Association of Australia (ESAA), *Submission 74*, p. 8.

89 Mr Mark Proegler, Director, Environmental Policy, BP Australia, *Committee Hansard*, 17 February 2009, p. 47.

...

The wholesale price of electricity under the current proposed scheme will roughly double by 2020 and will probably triple by about 2025.

...

...the coal-fired sector, in particular, which is currently a very low-cost producer, does not usually set the commodity price for electricity. But that is the sector that will bear the burden of the costs of carbon. As a consequence, that sector will have a margin squeeze...⁹⁰

3.103 The Energy Supply Association of Australia (ESAA) echoed these concerns:

The regulation of retail electricity prices poses significant threat to the efficient operation of CPRS and the viability of retailers. For the scheme to operate efficiently and provide least cost emission reductions, consumers must be exposed to the cost implications of greenhouse gas emissions. Retail price regulation would prevent retailers from passing on higher wholesale energy costs in a timely manner. Retailers could experience significant losses and be unable to contract forward with the remaining generators, forcing their eventual exit. Systemic failure or financial distress among major retailers would increase volatility and risks in the energy market and undermine reliability and security of supply.⁹¹

3.104 Further, in its submission to the committee, the ESAA stated:

...retail price regulation should be removed. However, where Governments are unwilling to commit to this reform, at the very least there should be a consistent, national framework for the regulation of retail prices that enables cost reflective pricing and the full pass-through of emission costs to consumers. The Australian Energy Market Commission should determine the appropriate methodology for ensuring cost-reflectivity and it should be applied by the Australian Energy Regulator.⁹²

3.105 The committee was informed that unless the 'plethora' of federal and state regulations are removed, the CPRS will not be an efficient ETS.⁹³ In its submission, ExxonMobil Australia noted that in light of the CPRS, a series of state and federal policies require review:

ExxonMobil believes there is an array of energy and fiscal policies at the state and federal level that would undermine the efficacy of any carbon price signal. In particular we would identify several areas that require specific review – mandated energy efficiency programs, mandated

90 Mr Carlo Botto, Director, National Generators Forum, *Committee Hansard*, 2 February 2009, pp 10-11.

91 Ms Clare Savage, Acting Chief Executive Officer, Energy Supply Association of Australia (ESAA), *Committee Hansard*, 2 February 2009, p. 18.

92 ESAA, *Submission 74*, p. 10.

93 Mr Hitchens, AIGN, *Committee Hansard*, 2 February 2009, pp 34-35.

technological requirements to mitigate emissions, mandated quotas for different energy sources that compete in the energy supply market and fiscal disparities (taxes and/or subsidies) which create distortions between competing energy sources.⁹⁴

3.106 Chevron Australia supported the rationalisation of existing policies which regulate greenhouse gases, stating:

The continuation of many of these policies will ultimately undermine the economic and environmental effectiveness of the CPRS and will do little to further emissions reductions when we have the CPRS in place.⁹⁵

3.107 Conversely, the committee also heard evidence calling for additional regulation to the CPRS. The National Institute of Economic and Industry Research told the committee that a carbon price as imposed via the CPRS will not drive the required efficiency adjustments and emissions reductions, and consequently, 'you need mandating, regulation and PPP⁹⁶ type arrangements to force the energy efficiencies into the system.'⁹⁷

3.108 On a practical level, the ESAA noted that the regulatory framework will need to accommodate the needs of a low emission energy supply system which would incorporate varied generation sources and different usage patterns.⁹⁸

3.109 The Department of Climate Change advised the committee that the Commonwealth Government hoped that various state based policies would be wound up with the introduction of the CPRS.⁹⁹

3.110 Envirogen, an organisation which uses waste coal gas to generate power, thereby providing a form of abatement, informed the committee their industry has not been recognised under the White Paper, and that if state based renewable energy policies are removed, their industry will become unviable. Envirogen argued that power generation from waste coal gas should be recognised as a renewable energy source under the Renewable Energy Target as it has been in Germany.¹⁰⁰

94 ExxonMobil Australia, *Submission 66*, p. 14.

95 Mr Peter Eggleston, External Affairs Manager, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 22.

96 Public private partnership.

97 Dr Peter Brain, Executive Director, National Institute of Economic and Industry Research, *Committee Hansard*, 17 February 2009, pp 21-22.

98 ESAA, *Submission 74*, p. 3.

99 Mr Barry Sterland, Acting Deputy Secretary, Department of Climate Change, *Committee Hansard*, 2 April 2009, p. 85.

100 Dr David Hamill, Chairman, Envirogen, *Committee Hansard*, 1 April 2009, pp 39-40 and 42.

3.111 The committee raised the case of Envirogen with the Department of Climate Change. The department explained that the government has identified Envirogen as an entity which will be affected by transitional issues in the move from state based schemes to the CPRS, and that the government 'was particularly interested in assisting those industries, and those discussions are ongoing'.¹⁰¹

Interaction of the CPRS with the Renewable Energy Target

3.112 The committee received evidence that the Renewable Energy Target (RET) is inconsistent with the government's stated aim of reducing carbon pollution 'efficiently'.¹⁰² The evidence indicated that the RET will not lead to a least cost path to emissions reductions and will lead to overregulation which will result in inefficiencies. The committee also received evidence that the CPRS does not do enough to encourage the adoption of renewable energy technologies and therefore the RET is necessary to assist the transition to renewable energy.

3.113 The Queensland Resources Council argued that the RET:

...adds to the cost. It is not consistent with a least cost path to emissions reductions. What we support is the price discovery through the cap and trade system. What the renewable target does is overlay a further set of price signals and some quite difficult to achieve outcomes in relation to renewable generation between now and 2020.¹⁰³

3.114 Chevron Australia argued:

In terms of the principles, mandatory renewable targets are going to mandate primarily wind powered generation in this country. What that will potentially do is displace other lower cost forms of abatement. You could use an example that one of the lowest cost ways we can reduce our emissions is to increase the proportion of gas-fired power generation in the country compared to coal-fired generation. There has been quite a lot of modelling done, which has been provided to government, that indicates you could deliver emissions abatement at probably half the cost through promoting gas-fired power generation rather than by promoting wind turbine generation in the marketplace. Effectively, what renewable energy targets do is that they result in higher electricity prices than would otherwise have been the case if lower cost abatement had been taken up through a market based mechanism.

...

We would argue that we want to get away from a framework where governments are prescribing what people should be doing and...Leave it for

101 Mr Sterland, Department of Climate Change, *Committee Hansard*, 2 April 2009, p. 85.

102 Australian Government, *White Paper*, December 2008, p. xxv.

103 Mr Roche, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 31.

the market to determine what is the lowest cost way to reduce emissions...¹⁰⁴

3.115 This argument was supported by evidence presented to the committee by the Australian Pipeline Industry Association:

The renewable energy target is a scheme that will decrease the use of natural gas. It could act against the government's intention to reduce carbon emissions because I understand that the renewable energy technology will not be ready quickly. The extra cost involved in introducing renewable energy could see power generators retaining coal—moving to coal or keeping coalfired power—because of the extra costs involved in enforced renewable energy. That does not fix the problem of reducing emissions, because it delays the move to natural gas. However, once renewable energy is introduced most of the renewable energy systems will need natural gas as a backup fuel because of the intermittent nature of renewable energy.¹⁰⁵

3.116 A similar argument was put to the committee by APPEA who explained to the committee that modelling they commissioned to assess the impact of the RET:

...demonstrates that meeting that target will come at the cost of gas...to the tune of around 10,000 gigawatt hours...By artificially carving out what would otherwise have been the emissions trading market to one of the highest cost forms of energy comes at the cost of natural gas and squeezes natural gas.¹⁰⁶

3.117 The committee notes that if this is the case, Australia's domestic policy, in the form of the RET, will lead to increased global emissions, in direct contradiction to the government's stated environmental objective.

3.118 AIGN further noted that:

Every independent review undertaken, including by Professor Garnaut, the Productivity Commission and the Treasury, has recommended that the current MRET scheme should not be expanded and should be phased out.¹⁰⁷

3.119 The CFMEU argued that without the RET, the CPRS 'will just cause a dash for gas.'¹⁰⁸

3.120 The Clean Energy Council argued that the RET is not a low cost approach, but:

104 Mr Torkington, Chevron Australia, *Committee Hansard*, 18 February 2009, pp 29-30.

105 Ms Cheryl Cartwright, Chief Executive, Australian Pipeline Industry Association, *Committee Hansard*, 19 November 2008, p. 87.

106 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 27.

107 AIGN, answer to written question on notice, 14 January 2009 (received 23 January 2009).

108 Mr Colley, CFMEU, *Committee Hansard*, 19 November 2008, p. 113.

...critics of pursuing a low-cost response assume that we know the answer to the challenge of transitioning energy supply under the threat of climate change, and we do not. That is why we are proposing a RET. The second is that we do not know what the technology mix looks like, so it is policy designed to find out what we can do. ...taking a lowest cost approach from the outset is unlikely to discover the full potential of those opportunities.¹⁰⁹

3.121 Pacific Hydro noted that the RET will reduce the efficiency of the CPRS in the short term, but will guarantee the establishment of a renewable energy industry in Australia.¹¹⁰

Unfortunately, we cannot see that the CPRS as it is currently designed would deliver an economic signal that would start to transform the stationary energy sector, whether that be in renewable energy, clean coal, carbon capture and storage or a whole range of other things...Therefore, the complementary measures that have been talked about briefly today are absolutely crucial, we believe, to that transformation of the stationary energy sector.

...

Effectively, we see the renewable energy target as an insurance policy for the short term. By short term we mean the next 10 to 15 years, while we wait for the CPRS to get into its stride and to deliver that broad price across the economy that will drive emissions down.¹¹¹

3.122 Mackay Sugar described the process the organisation uses to convert waste from sugar production into a renewable fuel to generate the energy required to run its Racecourse Mill. The organisation is planning to use this technology to build a large co-generation plant. Mackay Sugar explained to the committee that:

Legislation of the 20 per cent renewable energy target is an essential and urgent prerequisite for the co-generation project to proceed. However, the CPRS, the Carbon Pollution Reduction Scheme, will indirectly assist the projects due to the likely increase in wholesale electricity prices. Similarly, increases in petrol prices will assist the viability of our ethanol project into the future.¹¹²

Recognition of early mitigation actions taken by emitters

3.123 The committee questioned witnesses about the impact of the CPRS on industries which have already taken action to mitigate emissions.

109 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 5.

110 Mr Bernard Wheelihan, Chair, Pacific Hydro, *Committee Hansard*, 2 April 2009, p. 45.

111 Mr Richards, Pacific Hydro, *Committee Hansard*, 2 April 2009, pp 37-38.

112 Mr John Hodgson, Projects Manager, Mackay Sugar, *Committee Hansard*, 6 April 2009, p. 17.

3.124 Mr Andrew Canion of the Chamber of Commerce and Industry of Western Australia noted that early action should be recognised:

It is important to recognise early action and provide some credit for that. You have to have a starting point. It is a difficult policy position, but we believe that industries that have undertaken early action should be recognised and potentially rewarded in some way through policy development.¹¹³

3.125 The Australian Academy of Technological Sciences and Engineering also argued that environmentally efficient practices should be rewarded, 'we need to reward the people who have spent the money already and are operating at world's best practice. They should be rewarded by being given free permits.'¹¹⁴

3.126 Mrs Robyn Bain, Chief Executive Officer of the Cement Industry Federation stated 'The green paper does not refer to previous gains that any industry has made.'¹¹⁵

3.127 Mrs Bain explained her views regarding the impact of the CPRS given the cement industry has previously made considerable reductions in emissions:

Mrs Bain—It depends on whether or not the department or the government chooses the path of industry averaging. If you take an average across the industry the plants that are more energy efficient, which are predominantly the big ones, for example, Gladstone, Berrima, Railton, Birkenhead and Waurn Ponds, would be a bit better off than the smaller plants because they are more energy efficient. If you said, 'The average is 0.8', some of the bigger plants might come in at 0.74 or 0.76, so they would be slightly better off. But each company owns a big plant and a little plant, or a couple of big plants and a couple of little plants.

Senator BUSHBY—If that reduces over time and you have to buy more carbon imports how will that play out, given that you have already exercised a lot of the efficiency measures and you do not have a lot more room in which to move?

Mrs Bain—That really is the point. We do not have a lot more room in which to move. The technological changes that are required to get large CO₂ savings have already been made. That low-hanging fruit has been picked.¹¹⁶ However Professor Anthony Owen, of the Curtin University of Technology, explained that to offer credits or exemptions based on past action increases compliance costs and would make the scheme too bureaucratically burdensome. He further noted that industries who have

113 Mr Canion, CCI of Western Australia, *Committee Hansard*, 17 November 2008, p. 13.

114 Mr Peter Laver, Vice President and Fellow, Australian Academy of Technological Sciences and Engineering, *Committee Hansard*, 17 February 2009, p. 15.

115 Mrs Bain, Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 98.

116 Mrs Bain, Cement Industry Federation, *Committee Hansard*, 19 November 2008, pp 105-106.

taken mitigation measures in the past benefited from their actions in various ways.¹¹⁷

3.128 The AAC noted previous actions taken to reduce the industry's carbon footprint have benefited the industry both financially and in terms of efficiency. However, as the industry in Australia is generally already operating at world's best practice, it is difficult to find further mitigation and efficiency opportunities, and that the technology to achieve further mitigation is not yet commercially viable, therefore impacting on the competitiveness of the Australian industry compared to nations that do not have carbon costs.¹¹⁸

3.129 The Department of Climate Change provided the following explanation when questioned by the committee:

The proposed model for emissions-intensive trade-exposed assistance is to provide assistance on an industry average basis. To an extent an industry is below that average because of it [sic] past action or for other reasons, it will receive the same assistance as others in that industry.

...

If they are not trade exposed, they will face a lower obligation than other entities within their own industries when the scheme commences. So they will be entering the scheme commencement with a lower requirement to purchase emissions and will benefit in that way.

...

The liability is about how many permits you have to surrender. If you have to surrender less, your carbon costs are less than other firms in your industry. Even if those other firms have potential to come down to your level, while they are coming down they are surrendering more permits. The firms that are well placed will be well placed to [sic] relative to their competitors.¹¹⁹

Committee comment

3.130 The committee notes the lack of detail in the draft legislation regarding the support for EITE industries. The committee also notes the lack of accommodation of the extensive concerns raised with respect to the White Paper, particularly by trade exposed industries.

117 Professor Anthony Owen, Professor of Energy Economics, Curtin University of Technology, *Committee Hansard*, 17 November 2008, p. 46.

118 Mr Ison, and Mr John Hannagan, Chairman, Rusal Australia, Member of the Australian Aluminium Council, *Committee Hansard*, 8 December 2008, p 37.

119 Mr Barry Sterland, First Assistant Secretary, Emissions Trading Division, Department of Climate Change, *Committee Hansard*, 19 November 2008, pp 82-83.

3.131 The committee considers that the government's rushed approach to the design, introduction and proposed implementation time table for the proposed CPRS is irresponsible and not in the public interest.

3.132 The committee considers that the design and level of complexity of any Australian emissions trading scheme should be consistent with what is happening in other relevant parts of the world.

3.133 The committee considers that the government should prioritise getting the design of any proposed emissions trading scheme right ahead of meeting any arbitrary and self-imposed deadlines.

3.134 The committee considers that proceeding with a badly designed scheme which puts pressure on the economy and jobs without achieving any discernable reduction in global greenhouse gas emissions will make the achievement of a 'global solution' less likely. The impact on the Australian economy and jobs of the current badly designed and flawed CPRS will discourage other jurisdictions from pursuing greenhouse gas reduction through emissions trading schemes in the future.

3.135 The committee notes the restrictions on mitigation measures as imposed by the Kyoto Protocol and advocates that Australia work to expand the Kyoto Protocol to include sequestration through soil carbon and the benefits of LNG and nuclear power in respect to global emissions.

3.136 The committee notes the concerns expressed regarding the potential inability of power generators to pass on the carbon price signal to consumers due to the regulation of retail electricity prices.

3.137 The committee notes that there is no renewable energy that can deliver reliable large scale base load power, that more research and assistance is needed for those renewable energies demonstrating most promise. The committee notes that there needs to be caution with respect to the RET so that we do not make it harder to reduce emissions in the most cost effective way by imposing arbitrary targets.

3.138 The committee considers that the CPRS as currently designed does not achieve a sufficient environmental benefit and will not encourage investment in renewable technologies.

3.139 The committee agrees that the CPRS embodies a more ambitious and complex scheme than is in place or is being considered anywhere else in the world. The level of complexity is not something to be proud of. To the contrary.

3.140 The committee is of the view that the government's priority should be to design an appropriate scheme, not to get a scheme in place by an arbitrary deadline.

3.141 The committee considers the government needs to take further time to design an appropriate scheme for Australia, considering all possible alternative approaches.

3.142 The committee considers the further changes to the proposed CPRS announced by the Prime Minister on 4 May 2009 to be inevitable but very small steps in the right direction. The committee does not consider that the announced changes adequately address the fundamental flaws of the scheme as identified during this inquiry.

3.143 Specifically, the committee remains concerned that even after the changes announced by the Prime Minister:

- (a) The proposed CPRS will be ineffective in reducing global greenhouse gas emissions;
- (b) The government continues to 'fly blind' when it comes to the short and medium term impact of the proposed CPRS on the economy, jobs and regional Australia;
- (c) Australia's trade exposed industries will continue to be disadvantaged under the proposed CPRS compared to their competitors (unlike in the much cited European Union emissions trading scheme);
- (d) Many other flaws explored in some more detail in the remainder of this report have not been addressed.

Recommendation 5

3.144 The committee recommends that the CPRS as currently designed not be proceeded with.

Recommendation 6

3.145 The committee recommends that the Commonwealth Government commit to design a more appropriate scheme for Australia, which will be more effective in helping to reduce emissions globally and which will be more economically responsible.

Chapter 4

Treasury modelling

Introduction

4.1 The Department of the Treasury (the Treasury) undertook modelling on behalf of the Australian Government entitled *Australia's Low Pollution Future: The Economics of Climate Change Mitigation* (Treasury modelling).

4.2 The modelling examined 'four alternative scenarios in which Australia and the world follow pathways to a low-pollution future'.¹ Two of these scenarios assume a global stabilisation goal of 550 parts per million (ppm) of carbon dioxide equivalent (CO₂-e) in the atmosphere while the two remaining scenarios assume global stabilisation goals of 450 and 510 ppm. Each of these scenarios is compared against the 'reference case' which assumes no mitigation occurs. The reference case does not account for any impact of climate change on the economy.

4.3 The committee received extensive evidence raising serious concerns about the modelling undertaken by the Treasury and identifying flaws in the modelling.

4.4 It appears to the committee that the purpose of the Treasury modelling, from the government's point of view, was to present the most benign picture possible of the impact of the Carbon Pollution Reduction Scheme (CPRS) on the economy and jobs.

4.5 Following the evidence presented, it is the view of the committee that the Treasury modelling was limited and flawed in that it:

- Assumed other countries would sign up to reducing emissions;
- Did not assess the impact of the current significant global economic downturn;
- Did not assess the impact on regional economies, which, as outlined later in this chapter, can and has been undertaken by Frontier Economics;
- Assumed in its modelling that full employment would be maintained;
- Overstated the assistance to some industries;
- Did not include the effective rates of compensation to industry;
- Did not take account of the specific circumstances of the Western Australian electricity market; and

1 Australian Government, *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, 2008, p. x.

- Did not model, as far as the committee is aware, the features of the actual proposed CPRS.

4.6 The Department of the Treasury provided evidence that the 'scenarios that were modelled by Treasury were done at the direction of the government.'²

4.7 This raises the question why the government did not ask the Treasury to model some more realistic scenarios, in particular a scenario in which the rest of the world does not take action to the same extent as Australia, as assumed in the modelling, and in which the global economic downturn will impact the viability of Australian businesses and their ability to compete internationally.

4.8 The committee found it very hard to understand why the government would not have asked Treasury to assess the impact of the proposed scheme on regional economies to better inform the design of the scheme and to ensure any transitional assistance could be better targeted.

4.9 The committee considers the modelling undertaken by the Treasury to be inadequate and that the government should direct the Treasury to undertake and publish modelling of the impact of the CPRS:

- a. assuming little or no action by Australia's major competitors to reduce greenhouse gas emissions;
- b. taking account of the economic conditions due to the global economic downturn;
- c. on industry at a sectoral level, including the effective rates of compensation to industry;
- d. on regional economies; and
- e. in comparison with modelling of a variety of viable alternative policy scenarios aimed at Australia contributing to the reduction of global greenhouse gas emissions.

Peer review commissioned by the committee

4.10 In order to properly analyse the modelling undertaken by the Department of the Treasury, the committee commissioned a peer review of the modelling. The committee commissioned the review following issues raised during the early part of the inquiry as to the veracity of the modelling and thus the impacts of the government's proposed policy.

2 Ms Meghan Quinn, Manager, Climate Change Modelling Unit, Department of the Treasury, *Committee Hansard*, 19 November 2008, p. 62.

4.11 The review was undertaken by Dr Brian Fisher, of Concept Economics, formerly Executive Director of the Australian Bureau of Agricultural and Resource Economics (ABARE), and a recognised economist in the area of emissions trading.

4.12 Among the key findings of the review were:

Taking account of assumptions in both the reference scenario and the policy scenarios in the Treasury modelling, this review concludes that the most problematic elements surround:

1. sectoral marginal abatement cost curves that in a number of emissions-intensive industries appear to admit very significant mitigation at relatively low cost;
2. electricity sector transformation assumptions that appear to underestimate significantly the cost and structural adjustment challenge of moving to a decarbonised electricity generation sector;
3. long-term commodity price assumptions that in some cases depart significantly from industry estimates;
4. international action assumptions that are highly optimistic given the intrinsic nature of the climate change problem and the institutional framework in which international negotiations take place; and
5. emission pricing and permit trading assumptions that bias the results toward artificially low costs of mitigation.³

4.13 Dr Fisher went on to state:

...the interaction of these assumptions is likely to result in the Treasury modelling seriously underestimating the economy-wide and sectoral challenges associated with particular emissions reduction targets, particularly in the short to medium term. The implications are especially important for Australia's emission-intensive, trade-exposed (EITE) industries and for the electricity generation sector.⁴

4.14 The review examined the Treasury modelling with respect to a range of issues including:

- sensitivity analysis of the assumptions on which the modelling was undertaken;
- the impact on global emissions of the government's proposed emissions trading scheme (ETS) and the potential leakage of Australian jobs and industry;

3 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 6.

4 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 6.

- the consequences of more realistic assumptions concerning the likelihood of other countries taking similar action to that proposed by Australia; and
- the failure to include the impact of the global financial crisis (GFC) on Australia's capacity to bear the costs of participation in a global ETS and the rate at which other countries will commence participation in a global emissions trading scheme.

The full terms of reference for the review can be found at appendix 6.

Additional information sought from the government by the committee

4.15 The committee is concerned by the government's lack of transparency and public accountability when it comes to the Treasury modelling of the economic impact of the proposed CPRS.

4.16 In order to allow a proper assessment and scrutiny of the government's modelling, the committee, on behalf of the Senate, states and territories, industry, unions and the Australian public at large needed and deserved access to all the unpublished modelling information used by the government. This included unrestricted access to all of the government's assumptions, model codes and databases among other information.

4.17 In order to allow a comprehensive analysis of the modelling undertaken by the Treasury the committee sought additional information which had not been made available in the public domain. The committee considered the gaining of this information to be in the public interest and necessary for the committee to properly undertake the task of scrutinising the government's proposed CPRS.

4.18 To date the government has not provided a proper explanation as to why the information sought by the committee, and ordered to be produced by the Senate has not been provided.

4.19 The committee is extremely concerned about this lack of public accountability on behalf of the government in relation to a major policy proposal with serious potential implications for the Australian economy and jobs.

4.20 Many witnesses raised concerns about the amount of publicly available information concerning the modelling undertaken by the Treasury. For example, Ms Amy Lomas, Assistant Director, Emissions Trading Unit, the Western Australia Department of Treasury and Finance stated:

We have undertaken a number of different steps to obtain access to the data that supports the release of the Australia's low pollution future report by the Commonwealth Treasury and we have had a response via email which indicates to us that they are not able to provide us with any data other than what is already in the public domain. That has meant that we have had to

rethink our approach to how we advise the state government on how the CPRS is likely to affect Western Australia.⁵

4.21 Ms Lomas detailed for the committee the information the Western Australia Department of Treasury and Finance had been seeking and had not gained as follows:

For Western Australia, we are after time series data of industry growth output in millions of dollars and employment numbers for the two scenarios that they modelled for the CPRS—that is, the CPRS minus five per cent and the CPRS minus 15 per cent—and obviously the reference case scenarios that would apply as well. That would give us data for every year out to 2050 for Western Australia. Sorry, that is for Australia. We are also after the equivalent for Western Australia so that we can compare it, and any substate information that is comparable, so industry gross output by, say, regions—the Pilbara region or the south-west. We do not have any substate regional data.

We are also after gross state product time series data, again for those two scenarios, so that we can actually see what the nominal values would be for gross state product out to 2050. We are after time series data of emissions. If you look at the Commonwealth Treasury modelling, there is no information in there for states and territories on their actual emissions levels, so I could not tell you if Western Australia's emissions are forecast to decline relative to 2000 in the Commonwealth Treasury modelling report, and we are also after price changes for household consumables. We do not have any indication of which products households would be purchasing and what the relative changes in prices would be for those.⁶

4.22 The committee also noted the view expressed by Professor Warwick McKibbin, who stated that 'I am a big fan of open access and open source, and anything that I do which is funded by public money is publicly available.'⁷

4.23 When asked why modelling information was being kept secret, Ms Meghan Quinn from the Department of the Treasury stated:

I draw your attention to the information that is available from the modelling exercise undertaken by Treasury and other external consultants. My understanding is that it is the most comprehensive documentation available in Australia and comparable exercises. We have published comprehensive background consulting reports on the internet. All the underlying data that is contained in the report is available on the webpage, including all the data underlying all the charts. So there is a comprehensive set of information. It is more comprehensive than other publicly available information on comparable modelling in Australia or overseas. So it is not fair to say that

5 Ms Amy Lomas, Assistant Director, Emissions Trading Unit, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 18 February 2009, p. 12.

6 Ms Lomas, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 18 February 2009, p. 13

7 Professor Warwick McKibbin, *Committee Hansard*, 19 February 2009, p. 71.

there is not comprehensive information available in the public domain for you to look at.⁸

4.24 The committee was not at all satisfied with the explanation provided. The committee was not seeking access to publicly available 'background consulting reports' but to unpublished underlying data, assumptions, model codes and databases among other things that were vitally important to assess the credibility of the government's conclusions about the economic impact of the proposed CPRS. If all the information was indeed publicly available why has the government not complied with the Senate's order of 11 March 2009 (as discussed below), pointing out that all the information requested was already publicly available. It is clear that this information is not publicly available.

4.25 In attempting to gain the additional information, in the first instance the committee questioned the Department of the Treasury about the release of information to organisations seeking additional information about the modelling. Ms Quinn stated 'Any additional information requested from an industry, a stakeholder, a non-government organisation or state government is a matter for the government to decide whether it is released or not.'⁹

4.26 The committee wrote to the Treasurer, the Hon. Wayne Swan MP, on 9 December 2008 requesting that:

Dr Fisher be afforded full access to the government's complete documentation of the government's models together with the model codes and databases and any other model simulations undertaken relevant to the policy scenarios, but not publicly released.¹⁰

4.27 The Treasurer's response, which was only received on 3 February 2009, after the committee had given notice of a motion to order the production of information in the Senate, refused the committee's request and stated that:

The Treasury's climate change mitigation modelling was undertaken in conjunction with external consultants. The Treasury is obligated, under contractual agreements with these consultants, to not disclose or make public any Confidential Information of the other party. The information includes model codes and databases.¹¹

4.28 On 4 February 2009 the Senate made an order requiring the production of information by 5 February 2009:

8 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 68.

9 Ms Quinn, Department of the Treasury, *Committee Hansard*, 19 November 2008, p. 81.

10 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to the Hon. Wayne Swan MP, Treasurer, 9 December 2008.

11 The Hon. Wayne Swan MP, Treasurer, committee correspondence, 28 January 2009.

CARBON POLLUTION REDUCTION SCHEME—TREASURY MODELLING—ORDER FOR PRODUCTION OF DOCUMENTS

The Chair of the Select Committee on Fuel and Energy (Senator Cormann) amended general business notice of motion no. 334 by leave and, pursuant to notice of motion not objected to as a formal motion, moved—That the Senate—

a) notes that:

- i. the Select Committee on Fuel and Energy contracted Dr Brian Fisher from Concept Economics to conduct an independent peer review of the Department of the Treasury modelling of the impact of the Government's proposed Carbon Pollution Reduction Scheme,
- ii. the committee wrote to the Treasurer (Mr Swan) on 9 December 2008 requesting that Dr Fisher, be given 'full access to the government's complete documentation of the government's models together with the model codes and databases and any other model simulations undertaken relevant to the policy scenarios, but not publicly released' by 17 December 2008,
- iii. the Treasurer has refused the committee's request, and
- iv. Dr Fisher has reported that he was impeded in carrying out the work requested by the committee because the information requested from the Treasurer was not made available to him; and

b) orders that there be laid on the table by the Minister representing the Treasurer, no later than noon on 5 February 2009, the following information relating to the Department of the Treasury modelling, *Australia's low pollution future: The economics of climate change mitigation*:

- i. the model documentation and codes together with all databases for both the global trade and environment model and the Monash multi-regional forecasting model that were employed in the department's modelling of the Carbon Pollution Reduction Scheme scenarios in a form that would allow the reproduction of the department's results, and
- ii. any other model simulations undertaken relevant to the abovementioned policy scenarios but not publicly released.¹²

4.29 Senator Ursula Stephens, Parliamentary Secretary for Social Inclusion and the Voluntary Sector, made the following statement in the Senate on behalf of the government on 5 February 2009:

¹² Senator Mathias Cormann, *Senate Hansard*, 4 February 2009, p. 268.

The Treasury's climate change mitigation modelling is one of the largest and most complex economic modelling projects ever undertaken in Australia, and extensive documentation of the project has already been made publicly available. The Treasury's climate change mitigation modelling was undertaken in conjunction with external consultants. The Treasury is obligated, under contractual agreements with the consultants, to not disclose or make public any confidential information of the other party. This information includes model codes and databases, and it is likely that external consultants would be subject to commercial harm if the Treasury were to release to the committee any model codes or databases covered by such contractual agreements.¹³

4.30 On 6 February 2009 the committee wrote to the Treasurer referring to the statement made by Senator Stephens on 5 February 2009 and pointing out that the Senate, in passing the order of 4 February 2009, had effectively accepted the judgement of the committee that contractual obligations to consultants did not constitute a valid reason for declining to produce the documents. The letter quoted the relevant resolution of the Senate of 30 October 2003 which provides:

The Senate and Senate committees shall not entertain any claim to withhold information from the Senate or a committee on the grounds that it is commercial-in-confidence, unless the claim is made by a minister and is accompanied by a statement setting out the basis for the claim, including a statement of any commercial harm that may result from the disclosure of the information.¹⁴

The letter to the Treasurer requested a statement of the nature of the commercial harm claimed.

4.31 Senator Stephens made the following further statement in the Senate on behalf of the government on 11 February 2009, attempting to make the case of commercial harm:

The government believes that the provision of documents related to the modelling conducted for Australia's low pollution future: the economics of climate change mitigation would cause substantial commercial harm to organisations that were contracted to assist Treasury. In the case of the Monash Multi-Regional Forecasting model, the MMRF model, provision of the model codes and database would cause substantial commercial harm to Monash University—in particular, to the Centre of Policy Studies at that university. The model codes and databases for this model are the private, confidential information of that organisation. They are sold as a commercial product by Monash University. Disclosure of these model codes and databases would have the result that other organisations would have had

13 Senator the Hon. Ursula Stephens, Parliamentary Secretary for Social Inclusion and the Voluntary Sector, *Senate Hansard*, 5 February 2009, p. 83.

14 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to the Hon. Wayne Swan MP, Treasurer, 6 February 2009.

access to this information without entering into a commercial arrangement with Monash University. In effect, Monash University would be deprived of the value of the model codes and databases, resulting in commercial harm through the loss of the market to which they had previously sold their products.

In the case of the Global Trade and Environment Model, the GTEM, provision of the database would cause substantial commercial harm to the Centre for Global Trade Analysis at Purdue University. The Centre for Global Trade Analysis provides the global trade analysis project database from which the database for the GTEM has been derived. Disclosure of this GTEM database would have the effect of disclosing a substantial portion of the private, confidential information of the Centre for Global Trade Analysis. Disclosure of this database would have the result that other organisations would have access to this information, again without entering into a commercial arrangement with the Centre for Global Trade Analysis. This would prejudice the ability of the Centre for Global Trade Analysis to sell access to the database in Australian and world markets, resulting in commercial harm through the loss of the market to which they have previously sold their products.¹⁵

4.32 Following the response from the government the committee wrote to Monash University and Purdue University on 11 February 2009 seeking to work with the universities to protect the intellectual property of the universities while allowing the committee to properly scrutinise the material.¹⁶

4.33 On 12 February 2009 the committee received correspondence from Purdue University stating that commercial harm to its Global Trade and Analysis Project, would be avoided by the simple purchase of a licence.¹⁷

4.34 On 19 February 2009 the committee received correspondence from Monash University which stated that 'The University wishes to assist your Committee in every way possible' and that the University would be in contact with the committee to arrange how the university could 'meet the Committee's needs as far as possible while protecting the University's interests'.¹⁸

15 Senator the Hon. Ursula Stephens, Parliamentary Secretary for Social Inclusion and the Voluntary Sector, *Senate Hansard*, 11 February 2009, p. 700.

16 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to Professor Richard Larkins, Vice-Chancellor and President, Monash University, 11 February 2009; Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to Professor Ken Foster, Interim Department Head, Department of Agricultural Economics, Purdue University, 11 February 2009.

17 Professor Ken Foster, Interim Department Head, Department of Agricultural Economics, Purdue University, committee correspondence, 12 February 2009.

18 Professor Edwina Cornish, Deputy Vice-Chancellor (Research), Monash University, committee correspondence, 19 February 2008 [sic].

4.35 On 11 March 2009 the Senate made a further order requiring the production of information, on this occasion by 13 March 2009. This order recognised that:

- a) irrespective of the government's statement in the Senate on 11 February 2009 it is in the public interest that all underlying information used by Treasury in its modelling be available to help facilitate proper scrutiny by the Senate of the impact of the government's Carbon Pollution Reduction Scheme;
- b) models used in the modelling exercise developed using public funding ought to be publicly available; and
- c) where the public release of information is likely to cause significant commercial harm to an external organisation every effort ought to be made to prevent that harm while not preventing the Senate from fulfilling its proper role to scrutinise the activities and proposals of government.¹⁹

4.36 The order specified that some of the requested information was to be treated as confidential by the committee, any senator and any other person authorised to access the information under the order. The order stated that:

...the committee may refer to the information produced to it in accordance with this order and any conclusions reached from it in a report to the Senate, but shall not disclose the information in such a report.²⁰

4.37 These specific and strong confidentiality requirements mean that any disclosure or use of the information otherwise than in accordance with the order would be a contempt of the Senate and a criminal offence under the *Parliamentary Privileges Act 1987*.

4.38 Following the above order of the Senate, on 12 March 2009 the committee again wrote to Monash University informing them of the order and seeking to establish whether the protections afforded by the Senate sufficiently protect Monash University's intellectual property in relation to the Monash Multi Regional Forecasting model (MMRF). The committee also requested that the university write to the Treasurer, advising that the university has no objection to the government releasing the requested information according to the terms of the Senate order.

4.39 On 17 March 2009 Senator Stephens made a further statement to the Senate regarding the required documentation. Senator Stephens, in response to the Senate order of 11 March 2009, stated:

...the government continues to believe that the provision of the proprietary model code and data related to the modelling conducted for Australia's low

19 Senator Mathias Cormann, *Senate Hansard*, 11 March 2009, p. 1309.

20 Senator Mathias Cormann, *Senate Hansard*, 11 March 2009, p. 1309.

pollution future: the economics of climate change mitigation would cause commercial harm to organisations that were contracted to assist Treasury.²¹

4.40 Senator Stephens concluded by stating 'Until these serious matters of commercial harm are resolved to the documented satisfaction of the external consultants, the government will not consider this matter further.'²²

4.41 The committee received further correspondence from Monash University on 18 March 2009 which included a letter sent by the university to the Treasurer which stated:

I confirm that Monash University wishes to assist the Committee and in accordance with the above mentioned letter agrees to waive its confidentiality requirements on the basis that Order SJ61-11 March 2009 applies to the disclosure and that it overrides the provisions of Senate Standing Order 37 to the extent that Standing Order 37 would otherwise allow disclosure of information obtained from Monash University to persons other than those detailed in paragraph 4 of Order SJ61-11 March 2009.

Monash University waives its requirements of confidentiality on the basis that confidentiality is protected under the provisions of Order SJ61-11 March 2009 and disclosure will only be made to the persons referred to in paragraph 4 of Order SJ61-11 March 2009 who are subject to the confidentiality restrictions detailed in paragraph 5 of Order SJ61-11 March 2009.²³

4.42 Following receipt of the above correspondence from Monash University, the committee wrote to the Treasurer on 18 March 2009 reiterating the committee's judgement 'that contractual obligations to consultants do not constitute a valid reason for declining to produce information' and pointing out that 'given the information is required under an order of the Senate, parliamentary privilege overrides any relevant contractual obligations of the government.'²⁴

4.43 Importantly, the committee also pointed out that the government's claim of commercial harm related to only part of the information required under the orders and ignores the majority of the information sought.

4.44 The committee requested from the Treasurer:

21 Senator the Hon. Ursula Stephens, Parliamentary Secretary for Social Inclusion and the Voluntary Sector, *Senate Hansard*, 17 March 2009, p. 1689.

22 Senator the Hon. Ursula Stephens, Parliamentary Secretary for Social Inclusion and the Voluntary Sector, *Senate Hansard*, 17 March 2009, p. 1689.

23 Mr Andrew Kaynes, Senior Solicitor, Monash University attaching letter from Professor Edwina Cornish, Deputy Vice-Chancellor (Research), Monash University, to the Hon. Wayne Swan MP, Treasurer, dated 18 March 2008 [sic], committee correspondence, 18 March 2009.

24 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to the Hon. Wayne Swan MP, Treasurer, 18 March 2009.

- i. that you provide all of the information as ordered by the Senate on 11 March 2009 by midday 19 March 2009; and
- ii. if you do not provide the information, that you provide a statement by close of business 19 March 2009 explaining:
 - a) the basis on which the government continues to refuse to provide the information sought by the Committee that does not relate to the intellectual property of Monash University or Purdue University, including all of the information required under 3(b) of the 11 March 2009 order of the Senate;
 - b) the basis on which the government continues to refuse to provide the information sought by the Committee that relates to Monash University given the university has waived its requirements of confidentiality; and
 - c) the reason the government continues to refuse to release to the Committee the information relating to Purdue University given the specific confidentiality requirements contained in the order.²⁵

4.45 The committee again heard evidence from the Department of the Treasury on 2 April 2009. When asked about the government's failure to comply with the orders of the Senate, Ms Quinn stated:

The position that the government has made clear in the Senate is that it believes there is the potential for commercial harm for aspects of the information to be provided. It is a matter for the government.²⁶

4.46 Following the above evidence from the Treasury, and the absence of a response to the committee's letter of 18 March 2009, the committee again wrote to the Treasurer on 3 April 2009. The letter stated:

The Committee has conscientiously sought to address the concerns raised by the Government regarding the provision of the requested information and has actively sought to protect the intellectual property of the universities. Monash University's unusual and specific notification to you of its willingness to release the information in question in accordance with the Senate order clearly indicates that commercial harm is not an issue. The Committee views this response from the Government and the Department of Treasury as unnecessarily bureaucratic, baseless and deliberately unhelpful to the Committee.

The Committee considers the responses received to date from the Government to be seriously detrimental to the Committee's ability to

25 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to the Hon. Wayne Swan MP, Treasurer, 18 March 2009.

26 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 87.

properly scrutinise the proposed Carbon Pollution Reduction Scheme and therefore at odds with the public interest.

The Committee yet again asks:

- i. that you provide all of the information as ordered by the Senate on 11 March 2009 by midday 7 April 2009; and
- ii. if you do not provide the information, that you provide a statement by close of business 7 April 2009 explaining:
 - a) the basis on which the government continues to refuse to provide the information sought by the Committee that does not relate to the intellectual property of Monash University or Purdue University, including all of the information required under 3(b) of the 11 March 2009 order of the Senate;
 - b) the basis on which the government continues to refuse to provide the information sought by the Committee that relates to Monash University given the university has waived its requirements of confidentiality; and
 - c) the reason the government continues to refuse to release to the Committee the information relating to Purdue University given the specific confidentiality requirements contained in the order.²⁷

4.47 At the time of publishing, the committee has not received any of the information ordered by the Senate, or any response to its letter to the Treasurer dated 3 April 2009.

4.48 The committee considers the government's failure to release the information as ordered by the Senate to be a major failure of accountability and transparency. The government is proposing a major policy change which the Australian people should be able to properly scrutinise to assess the basis on which the government has formed its views and the likely impact of the policy. The government's lack of transparency has left the Australian people unable to have a properly informed debate.

4.49 In this context the committee notes the government's stated commitment to being open and accountable. Only recently Senator the Hon. John Faulkner, Special Minister of State, stated on behalf of the government that:

...the best safeguard against ill-informed public judgement is not concealment but information. As Abraham Lincoln said: "Let the people know the facts, and the country will be safe."²⁸

27 Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, committee correspondence to the Hon. Wayne Swan MP, Treasurer, 3 April 2009.

28 Senator John Faulkner, Special Minister of State, 'Open and Transparent Government – the Way Forward' speech made to *Australia's Right to Know* Freedom of Speech Conference, 24 March 2009.

4.50 The committee is of the view that the only conclusion that can be reached from the government's persistent refusal to release the information as ordered by the Senate is an attempt by the government to cover up important information that would help Australians to more properly assess the impact of the proposed CPRS, in particular its effect on the economy and jobs.

4.51 The committee believes that there is a strong likelihood that the impact of the scheme as proposed by the government on the economy and jobs is in fact worse than what the Australian people are led to believe. Why else would the government not agree to submit its modelling to rigorous scrutiny and peer review, making all of the necessary information available?

Consequence of limited information available for peer review

4.52 Dr Fisher's report included comment on the importance of transparency in modelling exercises as well as the issues he faced given the limited information available to him. Dr Fisher stated:

Although the public report on the Treasury modelling is voluminous there remain aspects of the modelling that are not transparent...it has been necessary to undertake this review without access to a complete set of information about model documentation, databases, implementation and many of the underlying technical model parameters. Given the major long-term structural changes to the Australian economy implied by the introduction of an ETS and the fact that the development of the key model employed to determine the international effects on the Australian economy of the scheme was fully tax-payer funded, it seems reasonable that full model datasets, codes and comprehensive documentation be released.²⁹

Dr Fisher also stated:

Among the factors that determine the integrity of any modelling exercise include the quality of the data, the credibility of assumptions and scenarios, the model closure framework and the ease with which the model(s) results can be reproduced. In other words, a rigorous approach to modelling demands a high level of transparency.

As already stated this review regards the transparency surrounding the Treasury modelling process as unsatisfactory, notwithstanding the efforts of the Committee to gain access to models, documentation, codes and databases developed with public funding.³⁰

29 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 2.

30 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 4.

Committee comment

4.53 The committee is of the view that it is in the public interest for the government to release all of the information as ordered by the Senate on 11 March 2009.

Peer review report

4.54 This part of the report discusses the conclusions and key findings of Dr Fisher's review. Given the broad range of issues covered in Dr Fisher's report, the findings will be discussed by theme.

4.55 Dr Fisher's conclusions regarding the Treasury modelling and the government's proposed CPRS include:

It is important, nonetheless, that Australia not be complacent about the scale of economic transformation in prospect under an ETS, either at an economy-wide or sectoral level. Those who suggest that the Treasury modelling confirms that Australia's economy could accommodate easily much larger emission targets than those proposed by the Government seem willing to overlook the limitations that surround even the most careful of modelling exercises.³¹

And:

An emissions trading scheme and associated medium and long-term targets will have profound economic implications for every Australian business and household. That Australia's economy may be on the brink of the greatest economic slump in more than half a century only reinforces the need for prudent decision-making, notwithstanding the results of the Treasury modelling about Australia's smooth transition to a low carbon future.³²

4.56 As set out above, the key findings of Dr Fisher's review included the likely underestimation of the economy wide and sectoral challenges associated with emissions reduction targets, particularly in the short to medium term.

International action assumptions and likelihood of global action

4.57 In relation to the international action assumptions in the Treasury modelling, Dr Fisher stated:

The starting point for the modelling is the statement that: 'Because responding to climate change is a global challenge, this report evaluates the impacts on Australia in the context of global action to reduce emissions'

31 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 4.

32 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 4-5.

(Treasury 2008a, p. 3). From this premise, Treasury's analytical framework yields a self-reinforcing, virtuous circle of domestic and international benefits. Hence: 'Strong global coordinated action accelerates cost reductions in low-emission technologies, prevents lock-in of more emission-intensive industry and infrastructure, and minimises distortions in trade-exposed sectors' (Treasury 2008a, p. 89).

...

A serious gap in the released Treasury modelling results is the failure to publish the results from any policy scenario where 'strong coordinated global action' on climate change is not forthcoming. This deficiency is all the more notable given:

- the intrinsic nature of the collective action problem surrounding climate change;
- the manifest failings of the existing international climate change architecture; and
- the explicit adoption by the Government of a medium-term national target range that includes an unconditional commitment to reduce Australia's emissions irrespective of the actions of other countries.³³

4.58 Dr Fisher also stated:

Ideally, Treasury's scenarios should have taken account of global, group and independent action by Australia, a view shared not only by a range of stakeholders but also, it would appear, by the Government's premier advisory body on structural reform (Productivity Commission 2007, p. 11).³⁴

4.59 Regarding term of reference 4.1, the consequences of more realistic assumptions concerning the likelihood of the rest of the world taking similar actions to Australia, Dr Fisher made the following statement:

The likely consequences of what this review regards as a more realistic set of assumptions on global action include the following:

- estimated emission prices in Australia are likely to be higher for a given emissions reduction trajectory;
- the cost of emission reductions to the Australian economy are likely to be higher;
- the postulated gains from early action by Australia are likely to be less or non-existent;
- the degree of competitive disadvantage faced by Australia's EITE sector would be greater; and

33 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 17 and 18-19.

34 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 21.

- the risk of serious disruption surrounding the transformation of Australia's stationary energy sector would be greater.³⁵

4.60 Dr Fisher went on to say that there is 'little in the recent experience of international climate change negotiations that points the way to the Treasury scenario of "strong coordinated global action" involving all major emitters'³⁶ and:

In reality, there is almost no prospect of non-Annex B countries taking on binding emission restraints under a post-2012 international climate change agreement arising from the UN climate change summit in Copenhagen. Any new agreement will have to allow for different types of mitigation commitment. The best that could be hoped for in coming years is for developing countries to engage gradually in an international framework via policy-based commitments.³⁷

4.61 In relation to term of reference 4.2, the consequences of more realistic assumptions concerning the participation of China in a global ETS by 2015, Dr Fisher concluded that the 'Treasury modelling assumptions appears to regard China's position in international climate change negotiations as a giant bluff.'³⁸

4.62 Dr Fisher, addressing term of reference 4.3, concluded that 'the prospects of India pricing emissions by 2020 appear slim.'³⁹

4.63 Addressing term of reference 4.4, Dr Fisher concluded that:

...there is little prospect of the United States agreeing in the near term to anything approaching the national emissions allocation framework modelled by the Treasury. The modelling relies on especially heroic assumptions in terms of the timing and nature of future US commitments to emissions reduction targets within an international agreement.⁴⁰

4.64 In relation to term of reference 4.5, the consequences of more realistic assumptions concerning the likelihood of a global agreement being sustained through the year 2050, Dr Fisher stated that 'No less formidable than the task of reaching a

35 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 34.

36 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 34.

37 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 35.

38 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 37.

39 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 37.

40 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 39.

comprehensive global agreement on climate change will be sustaining one'.⁴¹ He also stated:

Recognising that it is impossible to predict with any precision the specific course of international developments, it would have been useful if the Australian Government had explored likely areas of institutional stress in formulating the parameters of the Green Paper, the White Paper and the Treasury modelling.

This would have assisted policy makers in gaining a better understanding of the likely dynamics of future global cooperation. At the moment, the dominant approach seems based on willing all national governments to act without a clear understanding of the incentives of particular groups of countries. Australia has put its faith squarely behind a Kyoto-based approach which has demonstrated its incapacity to engender comprehensive engagement.⁴²

Impact of the CPRS on the economy, industry, employment and the environment

4.65 In relation to term of reference 2.1, the impact on global emissions of the government's proposed ETS and the potential leakage of Australian jobs and industry in emissions intensive trade exposed industries such as aluminium, liquid natural gas (LNG), cement and agriculture, Dr Fisher stated:

...many Australian industries, particularly in the traded-good sector, face a major competitive challenge under a domestic ETS. Just as Australia is a climate taker, not a climate maker, it is also the case that Australia is a price taker in global markets, not a price maker for the very large majority of the commodities that we produce.

An ETS could impose significant costs on Australian operations and bias investment decisions toward countries with lesser constraints on emissions. Hence the competitive impact on Australia's emission-intensive, trade-exposed industries – including aluminium, LNG, cement and agriculture – is likely to be substantial in an environment where international action on mitigation is likely to be slow, fragmented and partial.

On the basis of recent data, EITE industries account for 16 per cent of Australian business investment, 51 per cent of exports, 15 per cent of gross value added and employ nearly one in 10 working Australians (BCA 2008). The imposition of additional costs not faced by competitors is likely to constrain employment, investment and growth in these industries, with the potential for economic activity to shift to locations without a carbon price.

...

41 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 39.

42 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 39-40.

Over 80 per cent of Australia's exports go to countries that are unlikely to be subject to a carbon constraint in the near term. Around 75 per cent of Australia's imports come from similar countries. Notably, these figures are significantly higher than developed countries in Europe given high levels of intra-EU trade. For example, the relevant figures for the United Kingdom are roughly 40 per cent (PJP 2008, p. 17). This suggests, in turn, that competitiveness and carbon leakage problems may be more significant for Australia's EITE sector than for emissions-intensive industries in many other developed countries.

Notwithstanding modifications in the White Paper, the Government's proposed ETS looks set to impose greater competitiveness imposts on Australian EITE industries than will apply under any other current or proposed scheme, including the European ETS.⁴³

Further, he stated:

With its international action assumptions, the Treasury modelling largely assumes away what Garnaut described as the 'truly dreadful problem' of Australia's EITE industries facing a carbon price while their international competitors take no action (Garnaut 2008a, chapter 13).

...

The Treasury report also concludes that there is 'little evidence of carbon leakage' at the relevant emission prices with noticeable impacts only occurring at higher emission prices, roughly double the price of the CPRS - 5 scenario (Treasury 2008a, p. 169). Again, given the questions raised above about the international action assumptions this is not an especially credible result.

...

A final point worth noting is that the competitive impact on EITE industries of an ETS is likely to be felt most keenly in regional and remote Australia, often in locations with limited alternative sources of economic activity of such high value. The minerals industry, for example, is especially important to the economies of Western Australia, Queensland and the Northern Territory.⁴⁴

4.66 Regarding the impact on global emissions of the government's proposed ETS and the potential leakage of Australian jobs and industry in non trade exposed industries such as electricity, Dr Fisher stated that 'the Government's proposed ETS will have profound competitive implications for many operators in Australia's electricity generation sector.'⁴⁵ Dr Fisher also stated:

43 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 25-26.

44 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 27, 28 and 31.

45 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 31.

In line with the treatment of other sectors, most of the discussion of the electricity industry in the Treasury modelling report centres on a smooth, long-run transformation of the industry toward decarbonisation. There is relatively little that sheds light on the short- to medium term adjustment path of the sector and, as noted earlier, what analysis there is rests on assumptions about pass-through rates and strategic price setting behaviour. Also significant is the statement that the report projects retirement of electricity generators by modelling them as physical economic assets, with no account taken of 'the impact of financial considerations, such as debt-equity ratios or ownership structures' on retirement decisions' (Treasury 2008a, p. 178).⁴⁶

4.67 In relation to the third term of reference, the economic and environmental consequences of the government's proposed eligibility thresholds for emissions intensive, trade exposed (EITE) industry assistance, Dr Fisher stated that the proposed scheme 'by design, delivers only partial assistance to EITE industries.'⁴⁷ Dr Fisher also stated:

There is no detailed economic analysis underpinning the designated assistance thresholds which seek to identify Australian industries that would be viable and sustainable under a global carbon constraint.

In these circumstances, there remains a clear risk under the ETS that industries will move from Australia to elsewhere, with no benefit in terms of global emissions reductions. This would be contrary both to economic efficiency and to environmental effectiveness.

Second, there are major discontinuities in assistance rates, which in turn can lead to unintended consequences and distorted investment decisions.⁴⁸

4.68 Dr Fisher further stated that 'there are obvious anomalies such as the exclusion of the coal industry from the assistance regime that appear to reflect an element of politicisation of the scheme.'⁴⁹

4.69 Addressing term of reference 10.1, the impact on unemployment of the government's ETS and a rising carbon price in all years that the scheme is in place, Dr Fisher stated:

As far as the reviewer is aware the general equilibrium models employed by the Treasury assume that real wages adjust downwards following the introduction of the ETS to ensure that the long run equilibrium rate of

46 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 31.

47 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 32.

48 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 33.

49 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 33.

unemployment is maintained. This is a common closure for such models. It follows that estimates of possible additions to unemployment have not been made as far as the reviewer is aware.

Real wages decline steadily over time, relative to the reference scenario. This assumes that individuals will willingly accept ongoing downward real wage adjustments below what they otherwise would have received, without any adverse impacts on labour market outcomes at the sectoral or aggregate level. Labour inputs are assumed to costlessly shift between sectors. These assumptions ignore some of the key existing institutional realities of the Australian labour market, as well as any impact that the introduction of new regulatory arrangements on labour markets might have. These appear to be major oversights.⁵⁰

4.70 Addressing term of reference 14, the economic impact of the government's ETS on farming and agricultural industries, even if those industries are not covered in any scheme before 2015, Dr Fisher stated:

The overall impacts of the scheme on the farm sector will be largely determined by the actions of our overseas competitors. If those competitors do not introduce equivalent schemes and agriculture is not effectively shielded then a large share of the input cost increases of a scheme will be borne by farmers who will become less profitable relative to what otherwise would have occurred.

In a practical sense there are no commercially available technologies that exist today that could be applied to reduce methane emissions in the extensive rangeland based livestock industries. In addition, it will be challenging to devise a means of determining which producers have actually reduced emissions and which have not so it is likely that the monitoring and enforcement costs in agriculture will be much higher than in other parts of the economy.⁵¹

Global financial crisis

4.71 In response to term of reference 5.1, the failure to include the impact of the GFC on Australia's capacity to bear the costs of participation in a global ETS, Dr Fisher stated:

The global financial crisis and its flow-on to the real economy has altered dramatically the context in which Australia will be introducing an ETS and taking, in all likelihood, unconditional action to reduce emissions. By contrast, the Treasury modelling exercise and much of the decision-making on scheme design has assumed, often explicitly, a continuation of strong global and domestic growth, both in the implementation phase of the ETS and in the longer term.

50 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 51.

51 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 59.

...

The simple fact is that an ETS imposes a new cost on Australian producers and consumers. A critical concern surrounds the impact of the imposition of this additional cost of production on Australian firms at a time when company balance sheets have deteriorated dramatically, investment plans have been shelved and workers are being dismissed.

Other concerns relate to the impact of the financial crisis on the effective cost of capital. With the Treasury modelling already underpinned by very optimistic cost of capital assumptions relating to new electricity generation plant, it seems naïve to expect new low-emissions technology suppliers to seamlessly replace any short-fall in capacity due to the closure of fossil-fuel based plants.

The global financial crisis should also puncture the air of complacency that has surrounded the financial burden an ETS places on Australian businesses competing in the global marketplace. Against a backdrop of high commodity prices, there was a widely-shared presumption in official circles that the imposition of a carbon price in advance of other competitor nations would have only a minor adverse impact on key Australian export industries.

With commodity prices in some cases down 50 per cent from their peak and export-oriented companies looking to reduce costs wherever possible, measures that cannot be recovered through increased prices establish a significant disincentive to investment in Australia, both in existing operations and in future development as the time of the introduction of the scheme approaches.⁵²

4.72 Dr Fisher, addressing term of reference 5.2, the failure to include the impact of the GFC on the rate at which other countries will commence participation in a global ETS, stated:

In many countries, including Australia, the global financial crisis has reinforced the primacy of economic growth and jobs in national policy debates. While the full economic implications of the crisis remain unclear, there is a strong probability that policy-makers in many jurisdictions will regard global emissions trading based on an internationally binding carbon constraint as a distinctly weak priority until strong economic growth has been restored.

Given (a) their respective shares of global emissions, (b) their assumed early participation in global emissions trading in the Treasury CPRS scenarios (2010 for the US and 2015 for China), and (c) the close strategic link between their likely actions, particular significance surrounds the

52 Dr Brian Fisher, *Concept Economics, A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 42.

implications of the current economic crisis for the United States and China in the short to medium term.⁵³

Timing of implementation

4.73 In relation to term of reference 11, the economic impact of Australia introducing a poorly designed scheme in 2010, rather than a better designed scheme in 2011 or 2012, taking into account the decisions of major emitters, stated that 'Treasury's modelling of the costs of delay is inadequate'⁵⁴ and that 'the key economic and policy issues relating to delay and timing appear not to have been considered. This is a major oversight.'⁵⁵ Dr Fisher also stated:

That major decisions on scheme design and medium-term emissions targets have been taken without any clear knowledge of the post-2012 international climate change architecture suggests the need for further consideration of policy and governance arrangements to ensure the ETS works as intended. In December 2008, EU members agreed to a review of the current EU climate package in March 2010 to reflect the outcome of the Copenhagen conference. A similar review process to take stock of Australia's policy settings should be implemented to ensure the domestic scheme maintains community confidence and credibility.

More generally, it remains a major gap in the national climate change policy approach that Australia's premier, independent structural reform advisory body has not been asked to report formally on the nation's 'most difficult ever regulatory challenge'. The Productivity Commission should be given a brief to assess formally the Government's White Paper proposals against the Government's own Best Practice Regulation Guidelines.

This would doubtless shed light on improvements to ensure that the ETS is both durable and flexible, able to meet its core objective of supporting least-cost emissions abatement and soundly based in a way that is likely to maintain community support for climate change action over many decades. It would, for example, expose the full costs to businesses and households of the interaction of the ETS and the expanded RET.

The reality is that there is nothing sacrosanct about 2010. If the scheme is rushed or implemented alongside measures that simply add to the costs of mitigation there is a genuine risk that public support for long-term action on climate change will be eroded.⁵⁶

53 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 43.

54 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 53.

55 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 53.

56 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 54.

Emissions pricing and permit trading assumptions

4.74 In relation to emission pricing and permit trading assumptions Dr Fisher stated:

More generally, Treasury assumptions virtually guarantee that the permit prices from the modelling are unrealistically low. In addition to the assumption of coordinated global action, the results appear reliant on international climate negotiations delivering 'optimal' institutional and permit trading arrangements.

...

The current architecture for the global carbon market remains a long way short of that envisaged for an effective and efficient international emissions trading regime with developing countries participating actively in the global abatement effort. Major hurdles need to be overcome if Australia is to secure the cost reductions from expanded access to international mitigation through market-based mechanisms such as international emissions trading and the Clean Development Mechanism (CDM).⁵⁷

4.75 Dr Fisher, addressing term of reference 4.7, the consequences of more realistic assumptions concerning low or non-existent barriers to international trade in carbon permits, stated:

In the efficient global emissions trading scheme assumed by Treasury, there are no barriers to permit trading. In the world as it is likely to unfold the Australian government will be faced with decisions about whether permits or credits generated in particular countries are verifiable and represent a genuine emissions reduction and whether to allow the import of such permits. This may have important implications for both the domestic permit price and the international credibility of the Australian scheme. There appears to have been no analysis of this issue.⁵⁸

Availability of carbon capture and storage technology

4.76 Addressing term of reference 4.6, the consequences of more realistic assumptions concerning commercial scale availability and use of carbon capture and storage technology, particularly in the light of assumptions regarding the path of the carbon permit price, Dr Fisher stated:

Analysis by Concept Economics of those electricity technology assumptions suggests that in the critical cases of conventional coal and CCS-related technologies capital costs for new plants appear to have been underestimated by up to 50 per cent. In turn, Treasury appears to have underestimated the price at which CCS technology will be viable...

57 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 22 and 23.

58 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 41.

The Treasury report also appears somewhat inconsistent on the implications for Australia if CCS technologies fail to materialise at the sorts of emission prices postulated by the modelling. It implies, for example, that the commercial viability of CCS is a key determinant of Australia's emissions falling significantly from around 2035. It also states that the 'global adoption of carbon capture and storage technology will affect significantly the long-term viability of Australia's coal industry', the nation's largest export industry by a considerable margin (Treasury 2008a, p. 144). It nonetheless concludes that whether or not CCS technologies become a commercial alternative for electricity generation 'is not crucial for the aggregate mitigation cost results' for Australia (Treasury 2008a, p. 144).

This depends on one's definition of crucial'. Elsewhere in the report when examining the global role of carbon capture and storage it is stated that: 'Australian mitigation costs are more than the global average. Without carbon capture and storage, Australian mitigation costs rise by 23 per cent in 2050' (p. 127). A figure of 23 per cent may or may not be considered 'crucial', but it is surely significant.⁵⁹

Renewable Energy Target

4.77 Responding to term of reference eight, the economic cost of the government's expanded Renewable Energy Target (RET) compared to the costs of alternative policy approaches, Dr Fisher stated:

The RET policy places an unnecessary burden on Australian consumers of stationary energy. With an effective ETS in place, it merely imposes additional costs but without any additional abatement. Electricity prices would be higher than otherwise. It also distorts economic decision-making by favouring certain low emission technologies over others, directing investment toward higher cost abatement options and reducing incentives to abate emissions or innovate in ways that do not meet the eligible technology criteria. This is directly contrary to the intended purpose of an ETS based on least-cost, market-driven abatement.

Contrary to the view that a policy such as the RET generates jobs, the overall effect on the economy is less job creation than would otherwise have occurred and a loss of economy-wide output compared with a well-designed ETS alone.⁶⁰

4.78 Dr Fisher stated that his analysis of the additional costs of the RET was broadly consistent with the Treasury analysis. Modelling undertaken by Dr Fisher:

...found that the interaction of the ETS and the 20 per cent renewable target:

59 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 40-41.

60 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 48.

- costs Australia \$1.8 billion more in 2020 than a pure ETS policy in terms of GNP losses;
- costs Australia \$1.5 billion more in 2020 than the ETS in output (GDP) losses;
- results in the loss of an additional 3,600 full time equivalent jobs in 2020;
- causes substantial switching away from gas fired generation compared with an ETS in the order of 12,620GWh per year by 2020;
- results in electricity prices rising at least 6 per cent more than would be the case under an ETS alone - the price of electricity rises 24 per cent under the combined policy approach, and by 18 per cent under an ETS that delivers equivalent emissions abatement.

These results confirm that an ETS alone is preferable to an ETS and a renewables target that results in higher costs and no additional mitigation. If a case could be made for supplementary policies based on persistent market failures in the presence of an ETS, any low emissions policy should be inclusive of all technologies, including clean coal technologies such as CCS.⁶¹

Issues not considered by the Treasury modelling

Adaptation opportunities

4.79 Dr Fisher, addressing term of reference 13, the adaptation opportunities that could be foregone as a result of implementing a poorly designed ETS, and the economic costs of not implementing these opportunities, stated:

Treasury's modelling completely ignores adaptation and in doing so ignores the adaptation opportunities that will be foregone as a result of lower GDP. Treasury's modelling therefore ignores a key component of the opportunity costs of reducing emissions and ignores a vital aspect of the policy response to climate change.

National policies geared to adaptation to climate change are just as important as those geared to mitigation. And unlike mitigation, adaptation can effectively be pursued unilaterally (Productivity Commission 2008).⁶²

4.80 Dr Fisher also stated that responding to the adaptation challenges:

...will demand a major national investment over many decades. To the extent that a poorly designed ETS has the potential to weaken Australia's economy, it has a capacity to delay and diminish necessary adaptation responses. Finally, it is the case that climate change will occur everywhere,

61 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 48-49.

62 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 57.

with many projections suggesting that impacts will be large on the Indian subcontinent, Africa and elsewhere. Australia is therefore likely to be called on to increase support to other countries for climate change adaptation. Again, this can only occur based on a strong domestic economy.⁶³

Fixed-price permits versus a price cap on permits

4.81 In response to term of reference 15, the desirability of fixed-price permits, versus a price cap on permits, Dr Fisher stated:

Treasury's modelling does not analyse or shed any light on the economic effects of a price cap of \$40 as opposed to a fixed price or floating price. This is a major oversight.⁶⁴

Financial viability of coal fired electricity generators

4.82 Addressing term of reference 16, the impact of the government's proposed ETS on the financial viability (as opposed to economic viability) of coal-fired electricity generators, both in the short run and long run, Dr Fisher stated that in the Treasury modelling:

...the financial viability of coal-fired power stations is not considered. This means that the issue of whether the White Paper's proposed assistance is sufficient to maintain the financial viability of these assets – and whether this is consistent with Treasury's assumptions regarding their continued operation - is not examined.

This is yet another element of the government's preferred policy approach that does not appear to have been modelled by Treasury.⁶⁵

Cost of compliance

4.83 Dr Fisher, responding to term of reference 17, the cost of compliance measurement, both in Australia and internationally, stated:

An emissions permit constitutes a legal right to emit; it is a property right. Enforcing and monitoring these rights requires accurate measurement, which in turn can be difficult and costly. A small percentage of measurement error on a large volume of permits can have significant economic implications for the individuals trading or surrendering those permits. Treasury's modelling does not analyse the economic implications of these issues.

63 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 58.

64 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 60.

65 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 61.

The Treasury modelling also ignores the compliance costs of the scheme. The design of penalties for non-compliance influences the incentive to comply. The nature of the scheme's regulatory and enforcement regime will determine the probability of detection and punishment. This, together with the design of punishments – the size of fines and imprisonment terms - will determine the expected punishment, which is the effective 'price' of non-compliance.

...

Treasury's modelling appears to have ignored these important institutional and regulatory features.⁶⁶

White Paper policy

4.84 Addressing term of reference 18, the economic and environmental implications of the White Paper, Dr Fisher stated:

The Treasury document considers four policy scenarios. However, the policy proposed in the White Paper is that in the absence of a comprehensive global agreement Australia will undertake unilateral action to attempt to achieve a 5 per cent reduction in emissions on 2000 levels by 2020.

Treasury modelling does not include this unilateral scenario. As already mentioned the Treasury CPRS -5 (5 per cent reduction) scenario is based on the assumed multi-staged introduction of equivalent climate change policies in overseas countries.

Moreover, Treasury's modelling assumes 'shielding' for EITE industries according to the proposed scheme outlined in the Green Paper. But the White Paper proposes a different, more complicated shielding scheme. Treasury's modelling, published prior to the release of the White Paper, does not analyse this revised shielding scheme.

Finally, as noted earlier, the White Paper proposes a permit price cap in the first five years of the scheme. Treasury's modelling, published prior to the release of the White Paper, does not analyse the economic effects and implications of this policy.

In summary, the Treasury modelling does not actually model the government's preferred policy approach. A complete analysis and assessment of the economic costs and benefits of the government's preferred policy approach has yet to be published by Treasury.⁶⁷

66 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 62.

67 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 63.

Recommendations

4.85 Following analysis of the modelling undertaken by the Department of the Treasury, Dr Fisher made the following recommendations:

- that given indications of the worst global economic crisis in more than half a century, Treasury provide stakeholders with updated GDP forecasts from the IMF, OECD and Consensus Economics so that these can be compared with those used in the climate change modelling;
- that full model documentation and databases together with any additional scenario implementation code be released so that stakeholders can better understand the full implications of the Treasury modelling;
- that ETS governance arrangements incorporate a review process to confirm that the Treasury modelling results were reasonably accurate. This process should specify the way that any unintended consequences in ETS performance can be quickly corrected;
- that further analysis be done on the short- and medium-term impact of an ETS on the electricity generation sector and other emissions intensive industries that may be subject to significant structural adjustment particularly as it affects regional Australia and that such modelling be done using tools that take into account the lumpy nature of investment and the likely timing of the retirement of large capital assets;
- that additional sensitivity analysis be conducted around at least one policy scenario involving slow, fragmented and partial global action in the medium to long term;
- that additional sensitivity analysis also be conducted around less optimal international permit trading assumptions and the availability of Clean Development Mechanism (CDM) certificates;
- that a formal review follow the UN Conference of the Parties in Copenhagen in late 2009 to take stock of the likely configuration of global climate action in the next decade and Australia's actions in that context (this would mirror the review mechanism agreed by European Union leaders at their summit in December 2008);
- that Australia undertake a significant, pre-emptive diplomatic effort in Europe and the United States in order to counter the possible imposition of border barriers in the likely event that global action on climate change is slow, partial and fragmented;
- that the Productivity Commission formally review the Government's proposed ETS against its Best Practice Regulation Guidelines.⁶⁸

68 Dr Brian Fisher, *Concept Economics, A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 5.

Concerns about the Department of the Treasury modelling

4.86 The committee received evidence from a number of witnesses regarding concerns about the modelling undertaken by the Department of the Treasury. The main areas of concern were:

- assumptions regarding global action;
- failure to include the impact of the GFC;
- overstating the assistance to be provided to EITEs;
- failure to model more scenarios;
- optimistic assumptions regarding the impact of the CPRS on the asset value of coal fired power stations; and
- lack of modelling regarding the impact of the CPRS on regional areas.

4.87 Other issues raised about the modelling include the underestimation of price increases, failure to balance the costs on the economy of reducing emissions with the benefits of avoiding climate change, the assumption of full employment, failure to take account of the specific circumstances of the Western Australian electricity market and failure to recognise the costs of the people adjusting to the changed economy.⁶⁹

4.88 The conclusion reached by a large number of witnesses that commented on the modelling was that the limitations of the modelling resulted in the modelling having underestimated the impact of the CPRS on the economy, particularly during the transitional period.

Assumptions regarding global action

4.89 The most commonly raised concern regarding the modelling undertaken by the Department of the Treasury was concerning the assumptions regarding global action. Organisations which raised this concern include the Chamber of Commerce and Industry of Western Australia, the Cement Industry Federation, the Construction, Forestry, Mining and Energy Union, the Minerals Council of Australia, ExxonMobil Australia, the Australian Chamber of Commerce and Industry and BlueScope Steel.

4.90 Specifically, Mr Mitchell Hooke from the Minerals Council of Australia, stated:

...the real issue that we had with Treasury modelling was the assumption that the impact on Australia's international competitiveness would be negated by the prospect of a global protocol, and I think the words were

69 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service, *Committee Hansard*, 19 February 2009, p. 3; Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation, *Committee Hansard*, 2 February 2009, p. 83; Mr Daniel Price, Managing Director, Frontier Economics, *Committee Hansard*, 2 April 2009, pp 16 and 19.

‘other countries taking comparable action to Australia’s emissions trading scheme by 2010 for developed economies, by 2015 for China and by 2020 for India’.

That is, quite mildly, an heroic assumption...

That is the area of modelling that has caused us great disquiet.⁷⁰

4.91 Mr Gregory Evans from the Australian Chamber of Commerce and Industry stated:

Our principal area of concern in relation to the modelling was that it assumed that other countries would pretty much join the scheme initially, or soon thereafter, and in fact developing countries would also do that in a staged approach. It would have been helpful, I think, in terms of assessing the impact of the scheme, to perhaps model, or at least have some scenario or sensitivity analysis on various levels of uptake internationally and what that effect might be on Australia, because obviously the more slowly it takes other countries to join, the higher the potential cost would be on the Australian economy. So we did make the general point that there should have been a go-alone or a staged modelling as other countries may have gradually joined the emissions trading scheme.⁷¹

4.92 When challenged about the assumptions contained in the modelling regarding the actions of other countries Ms Quinn from the Department of the Treasury stated the modelling included:

...the more realistic scenarios relative to the Garnaut review with the multistaged process of China taking action from 2015, India taking action from 2020 and other low income developing countries not taking any action until 2025, that multi-staged stepping out was judged to be more realistic in the context of the international negotiations.⁷²

Failure to include the impact of the global financial crisis

4.93 Another commonly raised issue regarding the modelling was that of the failure to consider the impact of the GFC. Ms Quinn from the Department of the Treasury explained the failure to include the impact of the GFC as follows:

The economic analysis modelling was undertaken over 18 months. The report was released on 30 October. There is an issue of timing in terms of getting modelling results and getting a report ready for a particular point in time. There was no explicit decision to exclude the implications of the global financial crisis. It was judged in the context of the knowledge at the time that it would not materially affect the analysis in the report.

70 Mr Mitchell Hooke, Chief Executive, Minerals Council of Australia, *Committee Hansard*, 8 December 2008, p. 6.

71 Mr Gregory Evans, Director Economics, Australian Chamber of Commerce and Industry, *Committee Hansard*, 8 December 2008, p. 59.

72 Ms Quinn, Department of the Treasury, *Committee Hansard*, 19 November 2008, p. 62.

There is an explanation in the executive summary to that point. What is important for greenhouse gas emissions over the long run is the long-run trends in the Australian economy and the world economy, and cyclical ups and downs around that long-run trend are important in the context of the macroeconomic stability and macroeconomic cycle. However, in the context of looking at trajectories and targets over 20, 30, 40 and 50 years, we do not feel that it is material to the analysis in the report.⁷³

4.94 Ms Quinn provided further explanation that short term economic changes are not likely to significantly affect long term outcomes:

What typically happens is that economic growth goes below trends in response to a shock. There is a reaction at both the policy level and within companies, and the response is to go above trend. To the extent that that historical behaviour continues into the future, any cyclical deviation around the trend will affect in the near term possibly, one, two, three, four, five years. Looking at the 2020 targets and the 2050 targets and at the action to reduce greenhouse gas emissions, it is not clear, and certainly the judgement was that it is not material to the analysis in the report.⁷⁴

4.95 Mr Gordon Keen from ExxonMobil Australia also expressed his view of the need to consider the long term:

Our industry, and our company in particular, looks very much at a longer term view. Whilst it is unfortunate that there is a downturn now, and no doubt it will have impacts in the near future and we hope they are not protracted, the way we work in our company is very much long term. We average prices out and we try not to be influenced in decision making by shorter term factors. Despite the size of those factors now, which may actually be quite large, nonetheless we do look to the longer term. That is because of the size and scale of the investments that we make.⁷⁵

4.96 Mr Andrew Canion from the Chamber of Commerce and Industry of Western Australia stated why it would be useful for the GFC to be factored in to the Treasury modelling:

The global financial crisis is important, and it would be helpful to see that factored into the modelling. We understand that Treasury is saying that it is a longer term model that they have used, so short-term fluctuations may not influence it. However, we believe it would probably change the base. The starting point essentially becomes lower. We think it would be worthwhile and beneficial to the Australian public to see the results of that modelling undertaken.⁷⁶

73 Ms Quinn, Department of the Treasury, *Committee Hansard*, 19 November 2008, p. 63.

74 Ms Quinn, Department of the Treasury, *Committee Hansard*, 19 November 2008, p. 64.

75 Mr Gordon Keen, ANZ GHG Issue Manager, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 47.

76 Mr Andrew Canion, Senior Adviser, Industry Policy, Chamber of Commerce and Industry of Western Australia, *Committee Hansard*, 17 November 2008, p. 13.

4.97 Mr Tony Westmore from the Australian Council of Social Service agreed that 'the Treasury modelling ought to be revisited in light of the global financial crisis.'⁷⁷ Similarly, Professor McKibbin agreed that it would be useful for Treasury to model the impact of the GFC.⁷⁸

4.98 Mr David Pearce from the Centre for International Economics also stated that further modelling should be undertaken to take account of the GFC:

I certainly think it is worth modelling. You would model this as alternative baselines or alternative reference cases. It is certainly worth modelling reference cases where you have declines in output of our major partner countries and Australia. Actually, it is hard to predict in advance what the results of that might be on the cost implications of the CPRS. That is exactly why it is worth modelling.⁷⁹

Overstating the assistance to be provided to emissions intensive trade exposed industries

4.99 Representatives from BlueScope Steel argued that:

Although the headline rate of assistance for integrated iron and steel makers in the white paper is 90 per cent free permits, the effective rate of assistance is considerably lower. In fact, it could be as low as 64 per cent as our total scope 1, 2 and 3 emissions are taken into account. This is because significant parts of our business will be excluded from assistance under the white paper proposals. At \$25 a tonne of CO₂ equivalent, the cost of the CPRS for scope 1 and 2 emissions in the first year alone is tens of millions of dollars, after taking into account the government's proposed assistance. Adding scope 3 costs would see this increase even further.⁸⁰

4.100 BlueScope Steel officers further explained:

...the 90 per cent headline number does not apply to the whole iron and steel industry. The federal government modelling that was done assumed that it did, but it actually only applies to the really intensive steelmaking operation, where you are dealing with red-hot liquids and red-hot materials. All of the downstream processes, which is a very substantial operation—where steel is rolled and shaped and galvanised and painted and formed and turned into marketable products—will receive no assistance. So when you

77 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service, *Committee Hansard*, 19 February 2009, p. 12.

78 Professor McKibbin, *Committee Hansard*, 19 February 2009, p. 77.

79 Mr David Pearce, Executive Director, Centre for International Economics (CIE), *Committee Hansard*, 2 April 2009, p. 33.

80 Mr Noel Cornish, Chief Executive, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 28.

take into account those emissions, plus the emissions from the really intensive part, that dilutes the amount of compensation.⁸¹

4.101 BlueScope Steel argued that the inaccurate assumptions in the Treasury modelling such as the one explained above indicate that the results of the modelling underestimate what would actually occur under the CPRS.⁸²

4.102 The committee put a summary of the above point made by BlueScope Steel to Dr Fisher and asked for his view. Dr Fisher agreed that the assumption of 90 per cent free permit allocation as used in the modelling was an overly generous assumption.⁸³

Failure to model more scenarios

4.103 Mr Pearce from the Centre for International Economics argued that it would be advantageous to model more scenarios. He stated:

...models are a very powerful tool in understanding the trade-offs that face us. Given that this is something totally new—this is not a policy we have contemplated before—models are one of the few tools we have for peering into the alternatives that face us. But models are not particularly good at forecasting. I would not claim that economic models can forecast the future very well. What they are good at and what models like MMRF-Green and the other models that the Treasury has used in their analysis is in comparing alternatives are good at is in using the same basic model configuration to run a simulation of the CPRS as it stands and compare that with a simulation of, for example, a CPRS in which the auctioned revenue is used to reduce other taxes or to run a simulation of the CPRS as it stands in comparison with the output based allocation approach that Danny Price just talked about, or to compare the CPRS as it stands with a number of other alternatives. That exercise of comparing viable alternatives using a quantitative framework I believe will give a much better understanding than we currently have of the trade-offs that have been made in this policy at the moment.⁸⁴

He added:

[Treasury] have not modelled very many scenarios—they have modelled one scenario of global contributions to emissions. I think it is very important to model different scenarios.⁸⁵

81 Mr Alan Thomas, General Manager Engineering, Technology and Environment, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 36.

82 Mr Cornish, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 36.

83 Dr Brian Fisher, *Committee Hansard*, 2 April 2009, p. 61.

84 Mr Pearce, CIE, *Committee Hansard*, 2 April 2009, p. 26.

85 Mr Pearce, CIE, *Committee Hansard*, 2 April 2009, p. 27.

Optimistic assumptions regarding the impact of the CPRS on the asset value of coal fired power stations

4.104 Electricity generators raised concerns about the modelling associated with the impact on the asset value of existing assets. Mr John Boshier from the National Generators Forum stated:

Treasury modelling conducted for the white paper is optimistic in its assumptions about the potential impact of the CPRS on existing assets in the coal fired electricity generation sector...The Commonwealth government commissioned three different models from MMA, ACIL and ROAM to examine the wealth impacts of a CPRS on the coal fired electricity generation sector. It should be noted that economic modelling of the electricity generation sector is highly sensitive to fuel costs, demand growth and the volume of international abatement credits. MMA results were the lowest in terms of the negative wealth impacts on the coal fired electricity generation sector, followed by ROAM, with ACIL reporting the highest negative wealth impacts.

But it appears that only one of these models, MMA, was used as part of Treasury's broader modelling of the CPRS impact. It seems that little if any sensitivity analysis was conducted, emphasising the need for caution when designing a public policy response to such significant issue...The NGF has engaged Intelligent Energy Systems or IES to conduct a further assessment of the white paper modelling results. The IES market based modelling was strongly consistent with results from the ROAM and ACIL models and suggests that the MMA modelling is based on highly optimistic assumptions. IES estimated a negative wealth impact of \$12 billion. This is well in excess of the \$3.5 billion proposed in the CPRS white paper.⁸⁶

4.105 A similar view was expressed by Griffin Energy:

The Treasury modelling forecast for asset value losses, whether intentional or not, is conservative compared to other credible industry modelling. Understating the potential losses that might be expected by rational investors only serves to undermine the credibility of the Electricity Sector Adjustment Scheme in mitigating the perception of regulatory risk.⁸⁷

Lack of modelling regarding the impact of the CPRS on regional areas

4.106 The majority of witnesses from regional areas that commented on the Treasury modelling expressed that modelling should be undertaken to determine the impact of the CPRS on regional areas. For example Mr Arthur Rorris, Secretary of the

86 Mr John Boshier, Executive Director, National Generators Forum, *Committee Hansard*, 2 February 2009, p. 4.

87 Mr Shane Cremin, Market Development Manager, Griffin Energy, *Committee Hansard*, 18 February 2009, p. 2.

South Coast Labour Council, supported the release of as much information as possible regarding the impact of the scheme on jobs and members.⁸⁸

4.107 Mr Christopher Fitzhardinge from the South West Group, which is a voluntary regional organisation of six councils in the south west metropolitan region of Perth, stated:

There are a number of statements which have been made in the documentation which are not followed through. Firstly, it is indicated in many of the Treasury and Department of Climate Change publications that regions will be significantly impacted by policy changes on energy, but there is no region-by-region analysis of the impacts, nor is there any assessment of support to individual regions to be able to offset any impacts that may arise from the federal government's change in energy policy.

...

...you need to look at a region-by-region approach and not aggregate up the impacts. Australia is made up of separate regions that make significant contributions to the Australian economy and treating the Australian economy as a homogenous block does not fairly reflect impacts on Western Australia.⁸⁹

He continued that the Treasury modelling:

...needs to have greater detail on its regional impacts because in some cases it may be regions that need to be compensated rather than individual industries. The impacts, which may appear small on a national scale, may be significant locally.⁹⁰

4.108 The Mackay Regional Economic Development Corporation, Mackay Area Industry Network, the Gladstone Chamber of Commerce and Industry and the Gladstone Area Promotion and Development Limited also expressed the need to conduct modelling aimed at determining the impact of the CPRS on regional areas and then use this to inform the local people of the likely impacts.

4.109 For example, Mr Glenn Churchill, Chief Executive Officer of Gladstone Area Promotion and Development Limited stated:

...we would be certainly pleased and encouraged if the Senate inquiry was to determine that there could be some economic modelling from it. I think

88 Mr Arthur Rorris, Secretary, South Coast Labour Council, *Committee Hansard*, 1 April 2009, pp 22-23.

89 Mr Christopher Fitzhardinge, Director, South West Group, *Committee Hansard*, 17 November 2008, pp 89 and 91.

90 Mr Fitzhardinge, South West Group, *Committee Hansard*, 17 November 2008, p. 99.

that is what everybody is looking at...I think people just want to know how this will affect them financially.⁹¹

4.110 The committee heard evidence from Mr Daniel Price noting that Frontier Economics has conducted modelling which shows the greatest impact of the proposed scheme will be on regional areas across Australia. Mr Price stated:

I heard some comments about the regional state effects not being robust, which I thought was curious. The model that they used is something called MMRF-Green, which is the same model that we used. We operated the model using the same people that the Treasury used. In fact, Brian Parmenter, who works for Frontier Economics, is one of the builders of that model, so he knows how to use it. That model in fact builds up a picture of the economy from a state level, so it is impossible to say that state levels are unreliable, because it aggregates those results. The use of these models to dig down into regional economies is pretty common practice. Governments all over Australia use this model to look at regional effects. So it is not true that these results are not robust. That is not to say that any macroeconomic model is perfect; they are far from it; they are a very gross simplification of how an economy works.⁹²

4.111 When asked about the lack of published Treasury modelling at a regional level, Ms Quinn stated:

There are some issues about using simplistic reporting measures of regions. The MMRS [sic] model that was used by Frontier Economics and has been developed by the centre of policy studies at Monash University does not have a comprehensive analysis at a regional level. It does not allow for abatement opportunities at a regional level. It does not allow for adjustments between capital and labour at a regional level. It does not actually do any modelling at a regional level. It simply reports on the basis of simplistic, historical relationship results for regions. So Treasury did not consider that analysis to be robust enough to actually use in a modelling exercise.⁹³

4.112 Ms Quinn also stated that 'Unfortunately, there are no tools available for us to easily model regional implications.'⁹⁴ Further, Ms Quinn stated:

And I would restate my previous comment that the Australian Treasury did not consider the regional reporting in the MMRF model to be of a robust nature and, therefore, we did not judge that it would be in the public interest for that information to be provided, that the underlying economic modelling is not done at a regional basis in the MMRF model. It is simply a reporting

91 Mr Glenn Churchill, Chief Executive Officer, Gladstone Area Promotion and Development, *Committee Hansard*, 7 April 2009, p. 34.

92 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 14.

93 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 69.

94 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 69.

metric based on very simple assumptions and they are a very, very broad brush. They do not take account of all of the things that we know are important for thinking about the economic costs of mitigation.⁹⁵

Committee comment

4.113 The committee is of the view that the modelling undertaken by the Department of the Treasury, as published, is flawed and inadequate and the government should direct the Treasury to undertake further modelling as recommended below.

Recommendation 7

4.114 The committee recommends that the Senate not consider any legislation to give effect to the government's proposed CPRS until the government has fully complied with the relevant order of the Senate of 11 March 2009 and has released all of the information currently being kept secret.

Recommendation 8

4.115 The committee recommends that the government direct the Department of the Treasury to undertake and publish modelling of the impact of the proposed CPRS:

- (a) assuming little or no action by Australia's major competitors to reduce greenhouse gas emissions;**
- (b) taking account of the economic conditions due to the global financial crisis;**
- (c) on industry at a sectoral level, including the effective rates of compensation to industry;**
- (d) on regional areas of Australia; and**
- (e) in comparison with modelling of a variety of viable alternative policy scenarios aimed at Australia contributing to the reduction of greenhouse gas emissions.**

95 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 69.

Chapter 5

Impact of the Carbon Pollution Reduction Scheme on trade exposed industries

Introduction

5.1 Chapter 5 explores the evidence provided to the committee regarding the impact of the proposed Carbon Pollution Reduction Scheme (CPRS) on trade exposed industries. Trade exposed is defined as 'Industries that are constrained in their ability to pass through carbon costs due to actual or potential international competition.'¹ This usually means that the industries are exporters or they compete with imports.

5.2 As discussed in chapter 2, the Australian economy is heavily reliant on exports. In evidence received, the committee heard an overwhelming number of concerns about the likelihood of the CPRS as proposed by the government, leading to a reduction in the competitiveness of Australian industries, resulting in closure of, and reduced future investment in, Australian businesses. The committee was informed that this reduced investment will ultimately lead to reduced economic activity and loss of employment in Australia. The majority of the evidence received by the committee, while acknowledging that the government has made provision for some assistance to industry, argued that the proposed assistance is insufficient to stop carbon leakage in an environment where Australia's main competitors are not subject to an equivalent price on carbon.

The carbon leakage risk

What is carbon leakage?

5.3 The government has defined carbon leakage as:

The effect when a firm facing increased costs in one country due to an emissions price chooses to reduce, close or relocate production or to close or relocate production to a country with less stringent climate change policies.²

5.4 The *Garnaut Climate Change Review: Final Report* defined carbon leakage as:

1 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper (White Paper)*, December 2008, p. F.16.

2 Australian Government, *White Paper*, December 2008, p. F.4.

‘carbon leakage’—a loss of competitiveness and relocation of trade-exposed, emissions-intensive industries as a result of carbon penalties applying in some countries but not others.³

Trade-exposed, emissions-intensive industries represent a special case. All other factors being equal, if such enterprises were subject to a higher emissions price in Australia than in competitor countries, there could be sufficient reason for relocation of emissions-intensive activity to other countries. The relocation may not reduce, and in the worst case may increase, global emissions. This is known as the problem of carbon leakage.⁴

5.5 The Australian Farm Institute argued:

...the term has been interpreted quite narrowly...The reality of leakage is that in markets like agriculture we will see the cost disadvantage reducing Australia’s share in global markets and increasing the volume of imports into our domestic market, which we are already seeing for example in horticulture products from China.⁵

5.6 The committee, following consideration of the evidence, viewed carbon leakage in a broader context than as defined in the *Carbon Pollution Reduction Scheme: Australia’s Low Pollution Future - White Paper* (the White Paper). That is, in the committee’s view, carbon leakage includes potential increases in global emissions due to import substitution and lost future investment in existing or new businesses in Australia.

5.7 Importantly, the committee also considered carbon leakage to include a net increase in global emissions due to a reduction in local emission intensive industry, when the product of such industries, if exported, would substitute more emissions intensive products, and therefore reduce global emissions. A good example of this is the emissions benefit of using liquid natural gas (LNG) as a fuel source. While the process of liquefying gas is emissions intensive, LNG when used as a substitute for coal-fired electricity, results in a net reduction in emissions. The environmental benefits of natural gas will be further explored later in this chapter.

5.8 Mr David Pearce of the Centre for International Economics explained the carbon leakage described above as a paradox:

The clearest case is LNG, I guess, where you have a paradox: something that is less emissions intensive in its final use but it does actually generate emissions as it is produced...you have the paradox that you do make it more costly to achieve the global reductions in emissions that may otherwise result from substituting other fuels for LNG. I agree that it is a

3 Professor Ross Garnaut, *Garnaut Climate Change Review: Final Report*, October 2008, p. 230.

4 Professor Garnaut, *Garnaut Climate Change Review: Final Report*, October 2008, p. 316.

5 Mr Michael Keogh, Executive Director, Australian Farm Institute, *Committee Hansard*, 19 February 2009, p. 37.

general problem that imposing costs on our export industries significantly reduces the cost effectiveness of the policy in terms of reducing emissions.⁶

5.9 The committee noted with great concern that carbon leakage caused by the proposed CPRS would be damaging to the global environment while also damaging the Australian economy and reducing Australian employment levels.

What is the extent of the carbon leakage risk?

5.10 Professor Ross Garnaut noted that 'The fear of 'carbon leakage' has been a powerful obstacle to domestic mitigation policies in many countries.'⁷

5.11 Professor Garnaut also commented that:

Policy makers are therefore faced with a truly dreadful problem. Shielding these industries from the effects of a carbon price either undermines attempts to limit national greenhouse gas emissions or increases the adjustment burden elsewhere in the economy. Moreover, it results in the paradoxical outcome of shielding our most emissions-intensive industries (with the exception of stationary energy) from the effects of the scheme; that is, low emitters feel the effects of the scheme, but high emitters do not.⁸

5.12 As discussed in chapter 2, the committee heard evidence about the importance of global action to address climate change.

5.13 A large number of submitters and witnesses expressed concerns about the likelihood of carbon leakage if Australia proceeds without similar carbon imposts on competitors, while a limited number indicated that fears of carbon leakage are overstated.

5.14 The Minerals Council of Australia argued:

If we move too fast without a global protocol, energy intensive businesses will adjust by either shutting down or moving offshore.

...

[The Australian resource industry] cannot compete with the rest of the world in a carbon constrained Australia that is out of touch with the rest of the world. That is the issue...the Australian resource industry can compete in a carbon constrained world; it cannot compete in a carbon constrained Australia which is out of touch with the rest of the world.⁹

6 Mr David Pearce, Executive Director, Centre for International Economics (CIE), *Committee Hansard*, 2 April 2009, p. 27.

7 Professor Garnaut, *Garnaut Climate Change Review: Final Report*, October 2008, p. 230.

8 Professor Garnaut, *Garnaut Climate Change Review: Final Report*, October 2008, p. 316.

9 Mr Peter Coates, Chairman, Minerals Council of Australia (MCA), *Committee Hansard*, 8 December 2008, pp 3 and 9.

You will encourage a migration...there is unprecedented mobility in global capital and resources, and that goes for our industry right upfront, and so our companies will move. They will shift. They will just go to where they can employ their capital and their technology and their people far more effectively than they can when carrying the legacy of a burden that they cannot adjust to.¹⁰

5.15 Similarly, the Queensland Resources Council stated:

Industry's immediate concern is ensuring the ongoing viability of current operations whilst encouraging behavioural changes en route to the new carbon economy. As stated, some operations will experience significant decreases in earnings as a result of the CPRS that will compromise cash flow. In the absence of readily accessible and implemented abatement technologies, short to medium commercial viability will be challenged. Job losses and carbon leakage are therefore demonstrable risks.

The stronger finding of our analysis, and of potentially greater significance in terms of economic consequences, is the impact that the CPRS may have on future brown and Greenfield expansions. Again the analysis demonstrates that, whilst earnings may be such that the operation remains viable, earnings will be too low for a number of operations to consider expansions of an operation of comparable size, type and location. Against the background of strong long-term demand for most mineral and energy commodities, competing intracompany interests and growing global resource sector investment options, lost opportunities in Australia in the longer term appear inevitable.¹¹

5.16 Mr Daniel Price, from Frontier Economics, argued that Australia has very energy intensive industries which will suffer under a carbon price:

I know that people say that the spectre of carbon leakage is trumped up. It certainly is not. The industry has a legitimate claim. The reason that Australia is one of the highest per capita emissions countries in the world is that we have very energy intensive industries here because we have traditionally had very cheap energy. You will push those companies which are making investment decisions offshore to many countries that can supply these services and will not put a scheme in place. There is no doubt about that.¹²

5.17 The following statement from Caltex Australia reflects the fears of carbon leakage expressed by a number of witnesses:

...international competitiveness should be maintained...If international competitors won't face a carbon price, why should we have to? Failure to

10 Mr Mitchell Hooke, Chief Executive, MCA, *Committee Hansard*, 8 December 2008, p. 14.

11 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 26.

12 Mr Daniel Price, Managing Director, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 12.

implement such a policy threatens to destroy Australian investment and jobs without reducing global emissions.¹³

5.18 Alternately, the Australian Conservation Foundation argued:

...in terms of the idea of carbon leakage, I think there is a lot more talk about it than there is evidence of it. The evidence I have seen out of the EU, where carbon leakage was raised as a significant issue in their emissions trading debate, is that, after the fact, there has not been any strong evidence of carbon leakage...Basically, the local factors of production, the need to transport and all the other decisions that go into siting a plant far outweigh whether a company is going to up and move because of the introduction of a carbon policy in a country.

...

We are not saying that there is absolutely no chance that it would ever be anything like carbon leakage, but, again, there is more talk about it than there is evidence—¹⁴

5.19 The committee considers that carbon leakage as a result of the CPRS is a serious and credible risk. Given the significant differences between the existing European Union (EU) scheme and the much more complex and aggressive CPRS proposed by the Australian government, no conclusions on carbon leakage can be drawn from the EU experience. The over allocation of permits in the EU scheme, 95 per cent free permits issued across the board, as well as the granting of free permits for all trade exposed, export competing industries until other countries implement their own emissions trading schemes, means that if there was any cost imposed on European businesses at all as a result of the EU scheme, then it was absolutely minimal and inconsequential. In the committee's view the same cannot be said in relation to the proposed Australian scheme.

Assistance to industry

Industry assistance as set out in the White Paper

5.20 The government has recognised the need to provide assistance to industry in the White Paper. The White Paper stated:

Australia's adoption of a carbon constraint before other countries may have a significant impact on its emissions-intensive trade-exposed industries. The Government is committed to providing assistance to these industries to reduce the risk of carbon leakage and provide them with some transitional assistance.¹⁵

13 Caltex Australia, *Committee Hansard*, 20 February 2009, p. 49.

14 Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation (ACF), *Committee Hansard*, 2 February 2009, pp 90-91.

15 Australian Government, *White Paper*, December 2008, p. 12.1.

5.21 The reason for providing assistance to emissions intensive trade exposed (EITE) industries was articulated as:

The key rationale for providing assistance which addresses some of the competitiveness impacts of the Scheme on emissions-intensive trade-exposed (EITE) industries is to:

- reduce the likelihood of carbon leakage in the period before broadly comparable carbon constraints are applying internationally
- provide transitional support to these industries.

The provision of assistance to EITE industries will support production and investment decisions that would be consistent with a global carbon constraint.¹⁶

5.22 The principles which guided the development of the EITE assistance were:

- Assistance should be targeted to reduce the likelihood of carbon leakage and to provide transitional assistance...
- Assistance should not reduce carbon price signals...
- Assistance to EITE industries should be balanced against the need to assist other businesses and households...
- Assistance should not breach Australia's international trade obligations...¹⁷

5.23 The government acknowledged the difficulty of providing appropriate assistance to EITE industries:

This is a very difficult area of policy for a number of reasons and the proposal to assist EITE industries was closely scrutinised and debated by many stakeholders. EITE industries have legitimate concerns about taking on a carbon cost before some of their competitors...

The Government also recognises that providing more assistance than necessary to industries at risk of carbon leakage reduces national income, reduces the amount of Government revenue available for other purposes and redistributes resources (capital and labour) within the economy to assisted industries.¹⁸

16 Australian Government, *White Paper*, December 2008, p. 12.7.

17 Australian Government, *White Paper*, December 2008, p. xxxiv.

18 Australian Government, *White Paper*, December 2008, p. 12.1.

5.24 The White Paper provides the following summary of the key features of the EITE assistance program:

Table 5.1 Summary of EITE assistance program

Feature	Policy
Form of assistance	Allocation of permits at the start of each compliance period Based on individual entity's previous year's level of production Upon closure, must relinquish permits for production that did not occur in that year
Basis of assistance	Provided to new and existing entities undertaking an eligible EITE activity prescribed in regulations
Scope of assistance	Direct emissions covered by the Scheme Scheme related cost increase for electricity and steam use Scheme related cost increase for upstream emissions from natural gas and its components (e.g. methane and ethane) used as feedstock
Eligibility for assistance	Eligibility of activity based on an assessment of all entities conducting an activity Trade exposure assessed through quantitative and qualitative tests Emissions intensity assessment based on average emissions per million dollars of revenue or emissions per million dollars of valued added Time period for assessment: - emissions data: 2006-07 to 2007-08 - revenue/value added data: 2004-05 to the first half of 2008-09
Initial rates of assistance	90% for activities with emissions intensity of at least 2000t CO ₂ -e/\$m revenue or 6000t CO ₂ -e/\$m value-added 60% for activities with emissions intensity between 1000t CO ₂ -e/\$m and 1999t CO ₂ -e/\$m revenue or between 3000t and 5999t CO ₂ -e/\$m value-added
Carbon productivity contribution	Initial rates of assistance will be reduced by a carbon productivity contribution of 1.3% per annum
Allocative baselines	Allocative baseline for activity based on historic industry average level of emissions per unit of production for all entities conducting activity Electricity allocation factor set at 1t CO ₂ -e per MWh nationwide, may be adjusted in respect of existing large electricity supply contracts Natural gas feedstock allocation factor set state by state
New entrants	New entities conducting an existing EITE activity will receive the same assistance as existing entities conducting the activity Activities new to Australia will be able to apply for EITE eligibility -- assessment and baselines made on the basis of international best practice Allocations to existing entities conducting EITE activities will not be adjusted for allocations to new entrants
Quantum of assistance	Government expects allocations to EITE sector to be around 25% initially (35% including agriculture), increasing to around 45% by 2020
Review of assistance	EITE assistance program to be reviewed by independent body at each five year review point, or at request of Minister Review would consider: - inclusion of additional activities in light of commodity price changes and expansions in Scheme coverage - consistency of EITE program with overall rationale and principles - existence of broadly comparable carbon constraints applying internationally Five years' notice of any changes to EITE program to be provided, unless required for compliance with Australia's international trade obligations

Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper*, December 2008, p. 12.2.

5.25 Coal mining is excluded from EITE assistance. The White Paper provided the following explanation:

Since the majority of coal mines are not emissions-intensive, the Government will not provide EITE assistance to the activity of coal mining. (An allocation based on the industry average would lead to the majority of coal mines receiving significant windfall gains.) However, a small number of coal mines are very emissions-intensive and will face a significant cost impact from the Scheme. The Government will allocate up to \$750 million from the Climate Change Action Fund to facilitate abatement and assist with the transition of these coal mines...¹⁹

5.26 As discussed in paragraphs 5.67 and 5.68, the coal mining industry is of the view that they should not be excluded from EITE assistance.

5.27 The government acknowledged that there may be non trade exposed industries that could be particularly strongly affected by the CPRS. The White Paper stated that 'Coal-fired electricity generation has the characteristics of a strongly affected industry,'²⁰ and 'Industries other than coal-fired electricity generation do not have the characteristics of strongly affected industries.'²¹ Assistance for coal-fired electricity generation will be provided through the Electricity Sector Adjustment Scheme (ESAS). The White Paper stated the ESAS:

...will provide a once-and-for-all allocation of permits to the most emissions-intensive electricity generators...[through] a fixed administrative allocation of permits, delivering assistance of around \$3.9 billion to the most emissions-intensive coal-fired generators...²²

5.28 As discussed in chapter 7, both Queensland and Western Australian witnesses raised the issue of the majority of the financial assistance provided through ESAS going to brown coal fired generators in Victoria.

Evidence concerning assistance to industry

5.29 Prior to the release of the White Paper the committee received a lot of evidence regarding the inadequacy of the revenue metric as proposed in the *Carbon Pollution Reduction Scheme: Green Paper* (Green Paper). This view was expressed particularly strongly by the gas and petroleum industries. Following the release of the White Paper, BP Australia stated:

...the addition of an emissions intensity metric based on “value added” for assessing EITE activities is a good outcome since we believe it better reflects the economic contribution of industrial activities near the end of the

19 Australian Government, *White Paper*, December 2008, p. 12.46.

20 Australian Government, *White Paper*, December 2008, p. 13.6.

21 Australian Government, *White Paper*, December 2008, p. 13.7.

22 Australian Government, *White Paper*, December 2008, pp xxxviii-xxxix.

value chain. These and other EITE changes increase the likelihood that our key energy and export infrastructure such as refining and LNG businesses will qualify for EITE treatment, and thus limit the additional costs that will not be faced by our international competitors.²³

5.30 Following the release of the White Paper and therefore the inclusion of the 'value added' metric, Mr Michael Hitchens from the Australian Industry Greenhouse Network argued that 'the treatment of trade exposed industries does not deliver the commitments that were made that trade exposed industries would not be disadvantaged under an emissions trading scheme.'²⁴

5.31 The majority of the evidence received by the committee concerned the need for greater assistance for industry, while some indicated that the industry assistance as proposed by the government is too generous.

5.32 Those that advocated greater assistance for industry in the main, either argued that their industry should be recognised as requiring assistance, such as aviation, or that the provision of EITE assistance on an activity²⁵ basis was inadequate. In addition, some argued that assistance to industry should not be reduced over time until overseas competitors are subject to comparable carbon costs.

5.33 The committee heard evidence from both Qantas and Virgin Blue Airlines in regards to the aviation industry. Qantas appeared before the committee prior to the release of the White Paper and therefore provided evidence on the assistance as proposed in the Green Paper. Mr Peter Broschovsky, Group General Manager, Environment and Fuel Conservation from Qantas Airways, argued that 'The emissions-intensive metric is not really an emissions-intensive metric at all; it is about capacity to pay. It is a financial metric.'²⁶

5.34 Virgin Blue Airlines provided its evidence following the release of the White Paper. Mr Simon Thorpe, the General Manager, Safety Systems at Virgin Blue Airlines argued that:

...while they [aviation] are large emitters, they already use their fuel very efficiently and are faced with major obstacles in implementing initiatives that will produce stepped reductions. Airlines are not considered to be significantly affected and are not deemed eligible for assistance.

...

23 BP Australia, *Committee Hansard*, 17 February 2009, p. 42.

24 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network (AIGN), *Committee Hansard*, 2 February 2009, p. 34.

25 The White Paper defines activity as the 'chemical or physical transformation of inputs to a given set of outputs'. See p. F.1.

26 Mr Peter Broschovsky, Group General Manager, Environment and Fuel Conservation, Qantas Airways, *Committee Hansard*, 19 November 2009, p. 42.

In a business in which fuel can be up to 40 per cent of your cost base, to say you are not strongly affected based on cost just does not make sense. You have to look at the profitability of the business as opposed to the cost to actually run it.²⁷

5.35 The provision of assistance to EITE industries on an activity basis was of concern to a number of witnesses. Cement Australia summed up the argument:

The first is the proposal to assess emissions-intensive trade-exposed, or EITE, status on an activity basis only. We believe that this defeats the effectiveness of the EITE assistance program. Given that EITE assistance is provided to maintain the competitiveness of EITE industries—in our case, against imports—this proposal simply renders the EITE assistance program ineffective, potentially doubling the effective cost of the scheme. Cement Australia fundamentally believes that it is the cement product that is trade exposed, as opposed to the specific cement manufacturing activities.²⁸

5.36 BlueScope Steel stated:

...the 90 per cent headline number does not apply to the whole iron and steel industry...it actually only applies to the really intensive steelmaking operation, where you are dealing with red-hot liquids and red-hot materials. All of the downstream processes, which is a very substantial operation—where steel is rolled and shaped and galvanised and painted and formed and turned into marketable products—will receive no assistance. So when you take into account those emissions, plus the emissions from the really intensive part, that dilutes the amount of compensation.²⁹

5.37 Similarly, Alcoa stated 'We also believe that each aspect of the alumina and aluminium business—alumina refining, the mining, the smelting and the rolling—should all commence at 90 per cent allocation.'³⁰

5.38 Alcoa summed up the sentiment expressed by a number of witnesses relating to the proposed reduction of assistance to EITE industries over time stating 'there should be no erosion of the EITE allocations until our key competitors move'.³¹

5.39 Similarly, the Cement Industry Federation argued 'we must keep it [the assistance] at 90 per cent sustained until there is a global agreement.'³² The Australian

27 Mr Simon Thorpe, General Manager, Safety Systems, Virgin Blue Airlines, *Committee Hansard*, 20 February 2009, pp 13 and 19.

28 Mr Stuart Ritchie, National Sustainability Manager, Cement Australia, *Committee Hansard*, 7 April 2009, p. 3.

29 Mr Alan Thomas, General Manager Engineering, Technology and Environment, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 36.

30 Mr Tim McAuliffe, Manager, Environment and Sustainable Development, Alcoa of Australia, *Committee Hansard*, 17 February 2009, p. 31.

31 Mr McAuliffe, Alcoa of Australia, *Committee Hansard*, 17 February 2009, p. 31.

Aluminium Council also supported this view stating 'we argue that the decay factor should hold steady until our global competitors face similar imposts.'³³

5.40 The committee again notes that trade exposed industries in the European Union will continue to be issued free permits until other countries have implemented their own emissions trading schemes (ETS).³⁴

5.41 As stated above, some witnesses argued that the government policy provides too much assistance to industry. For example the Australian Conservation Foundation argued that the proposal provides 'excessive compensation to large polluting industries.'³⁵

5.42 Mr Tony Westmore, representing the Australian Council of Social Service, expressed a similar view when he stated that the scheme 'promised very significant amounts of money to polluters who are not going to change their behaviour.'³⁶

5.43 These views are not shared by the committee.

5.44 Alternately, the Australian Workers Union argued that the 'Measures contained in the package balance the demands of addressing the climate change threat through emissions targets with appropriate support for consumers, industry and the community.'³⁷

Specific industries

5.45 The committee received evidence from specific industries addressing the impact of the CPRS on those industries. Following is a summary of the evidence relating to the natural gas and coal mining industries which are major sources of energy, as well as the cement, aluminium and agriculture sectors which are significantly impacted by the price of energy or fuel.

32 Mrs Robyn Bain, Chief Executive Officer, Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 100.

33 Mr Michael Ison, Acting Executive Director, Australian Aluminium Council (AAC), *Committee Hansard*, 8 December 2008, p. 34.

34 Leslie Nielson, *The European Emissions Trading System – lessons for Australia*, Parliamentary Library Research Paper, no. 3, 2007-08, 20 August 2008, p. 16.

35 Mr Pascoe, ACF, *Committee Hansard*, 2 February 2009, p. 78.

36 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service, *Committee Hansard*, 19 February 2009, p. 13.

37 Mr Bradley Crofts, Economist, Australian Workers' Union, *Committee Hansard*, 19 February 2009, pp 44-45.

Natural gas

5.46 Australia has significant gas reserves, 'with 110 years of proven and probable reserves of gas, or probably more likely 200 to 300 years of proven, probable and possible reserves of gas.'³⁸

5.47 The committee received a substantial amount of evidence about the environmental importance of the natural gas industry. For example, the Australian Petroleum Production and Exploration Association (APPEA) stated:

There is a global environmental benefit in encouraging the expansion of the natural gas industry...Natural gas produces between 30 and 70 per cent fewer greenhouse gas emissions compared to coal when used in electricity generation, and, under an efficient carbon pricing regime, could be expected to increase its importance in Australia's domestic energy mix and play a key role in Australia's future export growth.³⁹

5.48 Ms Belinda Robinson provided a more detailed explanation of the environmental benefits of Australian LNG exports:

...for every tonne of carbon dioxide or equivalent that is produced in the production of LNG for export, we save in Japan four tonnes when they use it to generate electricity, and we save in China somewhere between 5.5 and 9.5 tonnes of greenhouse gas emissions when they use it to substitute for coal in electricity generation.⁴⁰

5.49 Ms Nicola Cusworth, Director of Macro-Economic Policy from the Western Australia Department of Treasury and Finance, expressed the view that 'Western Australian gas exports, certainly in the medium term, have the capacity to contribute to lessening global emissions.'⁴¹

5.50 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) also pointed out the importance of gas as the world moves to a lower carbon economy:

Natural gas is recognised by many countries as the bridging fuel for the next decade, as there will be a delay before several less technically developed low emission electricity generation plants can be progressively commercialised.⁴²

5.51 The CSIRO also provided evidence to the committee that:

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

39 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 24.

40 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 26.

41 Ms Nicola Cusworth, Director, Macro-Economic Policy, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 18 February 2009, p. 17.

42 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Submission 25*, p. 15.

...the two most mature low-emission technologies are switching to high-efficiency natural gas power stations, because natural gas has a lower carbon content than has coal, and combined cycle gas plants can achieve a higher efficiency.⁴³

5.52 Chevron Australia acknowledged that the compensation arrangements in the White Paper are an improvement on those in the Green Paper:

Certainly the white paper improves the position of the LNG industry significantly from where we would have been under the green paper model, but the white paper would still impose significant additional costs on our LNG projects.⁴⁴

5.53 Ms Robinson from APPEA explained that:

...if we did have a global price of carbon, which is what everyone is aspiring to...the Australian natural gas industry would do very well, and the gas industry would do very well as, I guess, our key competitor vis-à-vis fuel-coal, with a price associated with it.⁴⁵

5.54 Ms Robinson continued by arguing:

If that is what we are (1) seeking to achieve as a country, a global approach to carbon pricing, and (2) we want to kick the ball off with having a scheme of our own, it therefore becomes incumbent on that scheme to try to ensure that the sort of outcomes that we could reasonably expect of a global scheme are delivered through the domestic scheme as well.⁴⁶

5.55 A number of witnesses expressed the view that the CPRS will have a significant negative impact on the production of LNG in Australia even though the industry could contribute to the economic prosperity of Australia as well as provide global environmental benefits. For example, Ms Robinson from APPEA explained that the CPRS will reduce future growth of the industry:

There is no doubt that, unamended, it will impact on future expansion. We know this for a number of reasons. One is because project economics of LNG projects are very marginal and very difficult. As many of you will probably be aware, we still have only two LNG projects in this country, despite having this massive amount of gas—well over 100 years worth of natural gas. We still have only two LNG projects and one being built. That in itself is testament to just how difficult it is to make the economics of these projects stack up.⁴⁷

43 Mr Paul Graham, Theme Leader, Energy Futures, CSIRO, *Committee Hansard*, 19 November 2008, p. 22.

44 Mr John Torkington, Senior Adviser on Climate Change Policy, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 23.

45 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 26.

46 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 26.

47 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 28.

5.56 Ms Robinson further explained:

The imposition of costs on Australian production that is not faced by our customers or our competitors ultimately will lead to higher global emissions as energy customers substitute away from Australian gas to coal in the short term and to alternative sources of LNG in the longer term.⁴⁸

5.57 Ms Robinson also told the committee that the proposed CPRS:

By impacting quite significantly on the expansion prospects of Australia's LNG industry it is denying the world a cleaner source of energy, which would be substituted in the main by coal-fired power generation...any reduction of LNG production in Australia leads to a net increase in global emissions.⁴⁹

5.58 Chevron Australia argued that gas, like other industries, needs a positive investment environment to attract future investment:

During this period where we are not working in a global framework, Australia is getting ahead of much of the rest of the world. The issue is not just about carbon leakage but maintaining a positive investment climate in Australia for these sorts of projects. Now, if industries do not want to invest in LNG, oil and gas exploration or even car manufacturing and they would prefer to go and invest those funds elsewhere, we do not get a benefit in terms of global greenhouse emissions and Australia loses a lot of economic activity as a consequence. It is broader than just avoiding carbon leakage. There has to be balance: it has to be avoiding carbon leakage, but also maintaining a positive investment climate for Australian industry across the board.⁵⁰

5.59 Chevron Australia continued by explaining that the CPRS:

...imposes a substantial additional cost on those projects that needs to be borne. It just makes it more difficult to get those projects over the line...It is an additional cost that makes us less competitive with our international competitors and it is also an additional cost that raises the hurdle to actually making an investment decision.⁵¹

5.60 ExxonMobil Australia also argued that increased costs due to an ETS have the potential to negatively impact on the Australian LNG industry:

...if the Australian LNG industry bears any cost associated with an ETS above those borne by its competitors, then this has the potential to effectively price Australian LNG out of the growing markets of the Asia-

48 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 25.

49 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 26.

50 Mr Torkington, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 23.

51 Mr Peter Eggleston, External Affairs Manager, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 24.

Pacific, which are particularly sensitive to price movements, given the intense level of international competition.⁵²

5.61 The analysis undertaken by Dr Brian Fisher also indicated a significant impact on the LNG industry:

The impact of an ETS on the LNG industry is likely to be significant for two reasons. First, both the production of gas and the processes required to transport LNG are emissions-intensive. In addition, LNG projects are highly capital intensive and changes in costs, such as those imposed by an ETS, are enough to make many projects unviable.

Modelling work by Concept Economics suggests that under plausible ETS scenarios LNG output is likely to be between a third and a half less than it otherwise would be by 2030. This is the case regardless of whether or not the government offers to shield the industry with assistance for a period of time. This is based on a study of trajectories which span the two CPRS scenarios (0, 10 and 20 per cent reductions by 2020), but with more realistic international action and permit trading assumptions.

While 60 per cent permit allocation lessens the competitive impact on the industry, output would still be between 16 and 37 per cent below the reference case level in 2020, and between 39 and 54 per cent down on what it otherwise would be by 2030. Broadly similar results are reported for natural gas.⁵³

5.62 When questioned about the impact of the CPRS on the LNG sector, Dr Fisher further explained:

...if you think about the capital cost associated with building an LNG plant, we are talking about perhaps \$10 and often \$20 billion. These are not small amounts of money. You need to be able to see a reasonable rate of return before you are going to commit yourself to that sort of investment. The margins on these projects are reasonably fine. So, if you have a situation where there is another cost imposed on you in a particular country that is not imposed elsewhere, then the profitability of that project has to be able to stand that cost. The LNG industry has argued quite accurately that the cost potentially here are quite large and, at the margin, would cause some of these projects to either not be done or to move elsewhere. If they move elsewhere, you still might have reductions in emissions associated with burning LNG rather than coal. But it means that we as Australians lose that industry, lose that employment, lose those construction jobs and so on.⁵⁴

52 Mr Gordon Keen, ANZ GHG Issue Manager, ExxonMobil Australia, *Committee Hansard*, 8 December 2008, p. 43.

53 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, pp 29-30.

54 Dr Brian Fisher, *Committee Hansard*, 2 April 2009, p. 60.

5.63 The committee considers that any Australian ETS should be designed in a way that encourages, rather than disadvantages, the expansion of the Australian LNG industry, given its potential to help reduce overall global greenhouse gas emissions while contributing to Australia's economic growth and prosperity.

Coal mining

5.64 As set out in paragraph 5.25 coal mining is excluded from EITE assistance.

Coal is Australia's largest commodity export, earning over \$40 billion in 2008. Australia is also the world's largest exporter of coal, exporting over 250 million tonnes in 2008. The black coal industry employs over 30,000 Australians directly and a further 100,000 indirectly. It provides 57 per cent of our electricity generation. When we add in brown coal, that figure rises to over 80 per cent. Coal therefore underpins the security, reliability and comparatively low cost of Australia's electricity supply. In turn, this supports the competitiveness of Australian industry and provides affordable power for Australian households.

Coal is a large regional employer, contributing to the social fabric of the nation, including through the underwriting of significant rail and port infrastructure as well as social infrastructure in regional and more remote communities. The industry will provide over \$4 billion in royalties to state governments in 2008-09 and contribute over \$2.5 billion in direct and indirect taxes.⁵⁵

5.65 The committee heard evidence regarding the importance of either reducing emissions from coal or finding alternatives to coal in addressing climate change. For example, the Clean Energy Council argued:

...if you accept that the risk of dangerous climate change is a serious threat, then you either have to move away from coal-fired power or find a way of reducing its emissions substantially.⁵⁶

5.66 A similar view was expressed by Mr Peter Colley from the Construction, Forestry, Mining and Energy Union (CFMEU) who argued 'There is no long-term future for the coal industry if you cannot transform the industry, both coalmining and coal use, into low emission industries.'⁵⁷

5.67 The Queensland Resources Council argued that the coal industry is not being treated equitably in terms of the assistance to be provided under the CPRS:

55 Mr Burt Beasley, Acting Executive Director, Australian Coal Association, *Committee Hansard*, 2 February 2009, p. 58.

56 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 8.

57 Mr Peter Colley, National Research Director, Mining and Energy Division, Construction, Forestry, Mining and Energy Union (CFMEU), *Committee Hansard*, 19 November 2008, p. 116.

Despite qualifying for the emissions intensive, trade exposed 60 per cent assistance category, coalmining will be unilaterally excluded from receiving such assistance. Such assistance, if it had been available, was conservatively estimated at \$2.4 billion over five years. That compares with the \$750 million over five years under the two fund arrangements set out for coal in the white paper. These funds are conditional upon abatement activity being undertaken—a unique request compared to the treatment of other sectors—and will provide a much lower effective level of assistance than if 60 per cent free permits were granted. In short, we believe the same rules that apply to the rest of industry should apply to coal.⁵⁸

5.68 A similar argument was put forward by the Australian Coal Association:

Our fundamental proposition is that coal should be treated fairly in the CPRS. Coal is above the 1,000 tonnes of CO₂ per million dollars of revenue threshold, and we therefore qualified. There was a political decision taken to exclude coal from the arrangements for the EITE.

...

Let us look at what we did get under the CPRS. The government did not ignore the coal industry entirely. They allocated, from the revenues that they would obtain from the sale of permits under the CPRS, \$500 million over five years to directly assist the 20 or so gaseous mines to meet their permit bill, so to speak, and another \$250 million over five years to assist with the implementation of abatement technology at mines on a matching basis by companies. This is a five-year package and EITE is a 10 year package. This was done at an assumed price of \$20 a tonne. Of course EITE assistance is actual permits, which fully reflect of course the price of the permit. In addition, the quantum is substantially less than what we would have received under EITE.

...So, out of the \$5 billion that the coal industry will pay to the government in permits under the current proposals in the white paper and the legislation, we will receive back just \$750 million. That is a very meagre level of assistance compared with that for other emissions intensive, trade exposed industries. You can see in table 10 that LNG is getting 60 per cent; we are getting less than 10 per cent. Cement is getting 83 per cent, with aluminium getting 90 per cent.⁵⁹

5.69 Mr Ralph Hillman, the Executive Director of the Australian Coal Association, refuted the government's argument for the coal industry not receiving EITE assistance as put forward in the White Paper. He acknowledged that 'If you allocated the permits according to the white paper methodology, you would get windfall gains.'⁶⁰ However, he further argued:

58 Mr Roche, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 27.

59 Mr Ralph Hillman, Executive Director, Australian Coal Association (ACA), *Committee Hansard*, 2 April 2009, pp 2 and 5.

60 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 6.

There is a very straightforward solution to this. It involves tweaking the EITE allocation policy for the coal industry so that instead of allocating the permits on the basis of mine production, you allocate them on the basis of mine emissions...It completely eliminates the windfall gain issue.⁶¹

5.70 The Queensland Resources Council argued that an additional problem for the coal industry concerning the design of the CPRS is:

The CPRS proposes to include methane, the gas generated by the fugitive emissions from coalmining, despite strong reservations from countries within the EU scheme and now New Zealand. Further, methane is extremely difficult to measure, with some companies indicating that current measurement methodologies may overstate emissions by 30 times.⁶²

5.71 A further issue for the coal mining industry in a carbon constrained economy was explained by the Queensland Resources Council who argued that:

...abating greenhouse gases within the sector remains costly and difficult. For example, and specifically in relation to coal, it should be noted that, while some abatement options are available at reasonable cost, for methane-rich coal seam gas emissions from underground mines—typically much more gassy than open-cut mines—around half of the methane emissions are contained in mine ventilation air, for which economic abatement options are currently not available.⁶³

5.72 The Australian Coal Association argued that 'there will be job losses as a result of the CPRS', 'Mines will be closed', and 'new projects are at risk'.⁶⁴

Cement

5.73 The cement industry employs approximately 1870 people in Australia, the majority of which are engineers with an average salary of approximately \$82 000.⁶⁵

5.74 The committee received evidence about the cement industry from Cement Australia which supplies 47 per cent of the Australian market.⁶⁶ Cement Australia, like the Cement Industry Federation, highlighted the strategic importance of cement stating 'Cement is a strategically important commodity. The security of supply of cement is critical for social and economic infrastructure'.⁶⁷

61 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 6.

62 Mr Roche, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 27.

63 Mr Roche, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 27.

64 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 8.

65 Mrs Bain, Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 107.

66 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, p. 2.

67 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, p. 2.

5.75 The Cement Industry Federation explained that the cement production process uses a lot of energy, however 'Over the past two decades industry has improved its CO₂ output by 20 per cent per tonne of product.'⁶⁸ Mrs Robyn Bain of the Cement Industry Federation, explained that cement imported to Australia is more emissions intensive than cement produced and used in Australia:

...the cement industry is an economically competitive industry in Australia but it is also very efficient in CO₂ terms compared to our competitors. The only country that is more efficient in CO₂ than Australia is Japan, and they have nuclear. They also have much more biomass than Australia. If you imported cement from Japan via ship and you included the CO₂ for the transport of cement into Australia you would find that it is higher than the CO₂ emitted by Australia.⁶⁹

5.76 Mrs Bain expressed her fears with respect to carbon leakage and the industry's experience of the European Union ETS:

...I received a report from the Boston Consulting Group which our counterparts the Cembureau, that is, the Cement Industry Federation for Europe, commissioned to have a look at what happened to cement and carbon leakage. It is quite clear that when you distort your market—when you have a cost on one country that you do not have on another—cement manufacturers will build their plants where they have least cost.

Egypt is doing very nicely in a considerable number of brand new best state-of-the-art plants. Egypt is exporting its clinker to countries based around the coast. Spain is the best example of that. Spain is building grinding plants, it is grinding clinker, and it is sending it into the market. That is carbon leakage. Australia is in exactly the same situation as the countries on the border of Europe, in that it is not landlocked. We have good port facilities, we have silos sitting at those ports and we ship a lot of cement around this nation fairly frequently.

When the assets of those companies have a major disturbance and they need a significant input they close down those assets, they will not invest in that new kiln, and they will simply import the clinker, put it through the grinder here and send it out to the market. If that is what we as a country choose to do that is fine, but it will not assist in climate change.⁷⁰

5.77 Mr Stuart Ritchie of Cement Australia, stated that he believes carbon leakage is a 'real threat',⁷¹ and that one of Australia's major competitors in the cement industry is Indonesia, which is more emissions intensive than Australia.⁷²

68 Mrs Bain, Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 97.

69 Mrs Bain, Cement Industry Federation, *Committee Hansard*, 19 November 2008, p. 101.

70 Mrs Bain, Cement Industry Federation, *Committee Hansard*, 19 November 2008, pp 103-104.

71 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, p. 13.

72 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, pp 12-13.

5.78 Cement Australia anticipates that, at a cost of \$23 a tonne 'the net cost [of the CPRS] ranges from a \$6 million cost per annum at start of the scheme to about \$13 million...depending upon which activities are included in that [eligibility for Emissions Intensive Trade Exposed assistance] definition.'⁷³

5.79 Mr Ritchie stated that Cement Australia had been:

...working on a feasibility assessment for a new kiln in Gladstone. That is currently on hold, pending the outcome of the CPRS, because that really is a critical cost element for that project.⁷⁴

5.80 This project, if it goes ahead, will involve investment of approximately \$750 million, employ about 50 people in an ongoing capacity and hundreds during the construction phase.⁷⁵

5.81 As stated above, Cement Australia does not agree with EITE assistance being assessed on an activity basis. Specifically, Mr Ritchie explained:

The government proposes to assess cement according to individual activities, such as limestone extraction, clinker manufacture and cement milling. The current draft 'activity' definition proposes that limestone extraction for cement manufacture and the milling of clinker to cement should not be considered as EITE activities. In relation to limestone extraction, owing to the significant mass reduction that occurs during calcination, it is critical for both energy and cost efficiency purposes that limestone extraction operations exist in proximity to the rest of the manufacturing process. There is no integrated clinker manufacturing operation that exists without a nearby limestone extraction operation and, globally, there is no existing trade in the limestone clay blend used as a raw material by our industry. But, more importantly, should clinker manufacturing become uncompetitive under the scheme, Australia will also lose these associated limestone extraction operations and the jobs that go with them. In relation to cement milling operations, the exclusion of this activity will simply result in an increasing trend towards cement imports over clinker imports—again, with a commensurate loss in the abatement opportunities afforded by supplementary cementitious-material substitution, such as by fly ash and slag, and a resultant worsening of global greenhouse gas emissions.

...

The government has said that cement would receive a 90 per cent allocation but, with the way they assess that, that 90 per cent is, in fact, a nominal 90 per cent. The principal concern that we have is that that assessment is based on breaking your manufacturing operation up into specific activities and

73 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, p. 5.

74 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, p. 9.

75 Mr Ritchie, and Mr Matthew Lawson, Commercial Manager, Gladstone Plant, Cement Australia, *Committee Hansard*, 7 April 2009, p. 10.

then assessing each of those in terms of their trade exposure. We think that has some quite perverse incentives. But, in terms of answering your question, from a real allocation perspective, that means that 90 per cent drops to somewhere about 83 per cent to 84 per cent.⁷⁶

5.82 Dr Fisher argued that the impact of the CPRS on the cement industry is likely to be more severe than indicated by the Treasury modelling:

The cement industry is highly emissions-intensive (based on both direct and indirect emissions) and increasingly trade-exposed with Australia importing around 18 per cent of domestic consumption. There are few barriers to imports of cement in Australia and well-developed infrastructure exists for the import of cement and clinker. Domestic prices tend to reflect import parity prices.

Major sources of imports include Japan, Indonesia and Taiwan, while developing countries in the Asia-Pacific region that are unlikely to impose a carbon constraint in the medium term have accounted for most of the growth in global capacity in recent years. China is the world's largest exporter approaching 40 per cent of global exports of cement. Industry estimates put excess capacity in the Asia-Pacific at more than 200 Mt (equivalent to more than 20 times Australian consumption). This indicates a serious risk to jobs and investment under an ETS, especially given countries such as China, Indonesia, Thailand, Malaysia and Vietnam are unlikely to embrace emission pricing in the foreseeable future.

In this context, the reported results for cement in the Treasury modelling appear highly implausible. Under the CPRS-5 scenario, cement output is only 6 per cent below the reference scenario at 2050 and more than double 2008 output levels.⁷⁷

Aluminium

5.83 The committee received the majority of evidence regarding the aluminium industry from the peak industry body, the Australian Aluminium Council, Alcoa and from Hydro Aluminium Kurri Kurri. Alumina and aluminium production are energy intensive and therefore sensitive to any increase in the cost of energy. Aluminium is subject to an international price as set by the London Metal Exchange.⁷⁸

5.84 Hydro Aluminium Kurri Kurri argued that 'as a lightweight material, over its lifecycle aluminium yields significant emissions reduction benefits through its application in downstream products.'⁷⁹

76 Mr Ritchie, Cement Australia, *Committee Hansard*, 7 April 2009, pp 3 and 5.

77 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 30.

78 Mr Ison, AAC, *Committee Hansard*, 8 December 2008, p. 36.

79 Hydro Aluminium Kurri Kurri, *Submission 78*, [p. 1].

5.85 Mr Michael Ison, from the Australian Aluminium Council, outlined:

In 2007 the Australian alumina and aluminium industries generated \$11.2 billion worth of exports, employed 13,800 direct employees and 3,500 contractors, and stimulated regional economies and communities across Australia. In 2007 Australia's seven alumina refineries produced 19 million tonnes of alumina, of which 80 per cent was exported. Greenhouse emissions associated with alumina production totalled 14.3 million tonnes in carbon dioxide equivalent.⁸⁰

5.86 Mr Ison argued:

Australia's alumina refineries are amongst the most energy efficient in the world. Since 1990 alumina production has increased 70 per cent, whilst total emissions have only increased by 34 per cent. Emission intensity—that is, tonnes of CO₂ per tonne of alumina—has decreased by 21 per cent over this period.

...

We have made significant advances in reducing things like perfluorocarbon emissions since 1995, and that has been done for efficiency reasons—it is better for the plants; they make more money—and also for reducing our carbon footprint. How is that reflected in the CPRS? It might make our job a little bit harder in terms of reducing emissions, because we are already at world's best practice in most cases.⁸¹

5.87 Hydro Aluminium Kurri Kurri, and the Australian Aluminium Council argued that there are very few commercially viable options to reduce emissions further from Australian aluminium and alumina production.⁸²

5.88 The Australian Aluminium Council argued that the Australian aluminium and alumina industries 'will, under global carbon conditions, continue to be competitive growth-oriented industries' however:

Changing the nature of our inputs in terms of a tax impost is what this represents. The CPRS is nothing more than an introduction of another tax. However you want to describe it, it is an additional cost tax, so it becomes another impost that we have to bear when our competitors do not.⁸³

5.89 Mr John Hannagan, the Chairman of RUSAL Australia, argued the importance of maintaining the competitiveness of the industry, particularly given the need for long-term investment:

80 Mr Ison, AAC, *Committee Hansard*, 8 December 2008, p. 29.

81 Mr Ison, AAC, *Committee Hansard*, 8 December 2008, pp 29 and 37.

82 Hydro Aluminium Kurri Kurri, *Submission 78*, [p. 3]; Mr John Hannagan, Chairman, Rusal Australia, *Committee Hansard*, 8 December 2008, p. 37.

83 Mr Ison, AAC and Mr Hannagan, Rusal Australia, *Committee Hansard*, 8 December 2008, pp 29 and 31.

I think that it should be designed to maintain competitiveness no matter what the circumstances are. You either have a competitive structure or you do not. You cannot tailor systems to suit one particular set of circumstances...The long-term investment in this industry is what is central to the companies. We are looking at 30-year horizons for investment. We do not look at five, 10, 20 years. We look at 30-year horizons.⁸⁴

5.90 Mr Tim McAuliffe, the Manager, Environment and Sustainable Development at Alcoa outlined the cost impost on the industry as a result of the CPRS:

...even after the emissions-intensive trade-exposed provisions in the CPRS have been applied, the additional cost imposed on the Australian alumina and aluminium industry would be in excess of \$150 million in year 1. The additional cost of production will then grow significantly each year in response to permit erosion and the increase in carbon price. That is why this is such a significant issue to the sustainability of our industry in Australia.⁸⁵

5.91 In response to a question on notice, the Australian Aluminium Council outlined its view of the impact of the CPRS on the aluminium and alumina industries:

The CPRS will impose an extra cost on alumina refining and aluminium smelting industries – thus helping to move our very competitive operations up the cost curve, whilst competitors in non carbon constrained economies remain unaffected. Given that all of the players in the industry are global companies operating in both carbon constrained and non-carbon constrained economies – it is almost certain that we will see the investment required to sustain existing capital here in Australia gradually diverted away (note that new investment will be out of the question until such action is taken globally).

Capital will instead be most likely directed to operations in countries such as China, Middle East, South Africa and South America – and therefore the overall impact on global emissions is likely to be zero. The number of coal-fired power plants is increasing around the world; China, for example, accounted for two-thirds of the more than 560 coal-fired power units built in 26 nations between 2002 and 2006.

The danger is that the CPRS, implemented outside of any robust global action, will most likely deter companies from investing in sustaining capital, and this investment will be diverted to operations in non carbon constrained countries with zero impact on global greenhouse gas emissions.

Why should Australia give up economic security when there is little likelihood that global emissions will be reduced?⁸⁶

84 Mr Hannagan, Rusal Australia, *Committee Hansard*, 8 December 2008, p. 34.

85 Mr McAuliffe, Alcoa of Australia, *Committee Hansard*, 17 February 2009, p. 31.

86 Australian Aluminium Council, answer to question on notice, 8 December 2008.

5.92 Both the Australian Aluminium Council and Alcoa argued that there should be no erosion of the EITE allocation until their key competitors were subject to a comparable carbon cost.⁸⁷

5.93 Dr Fisher also argued that the CPRS would have a significant impact of the aluminium industry:

The risk of carbon leakage and of perverse economic outcomes in the sector can be illustrated most clearly by the Bell Bay smelter in Tasmania, Australia's only predominantly hydro-based facility. Tasmania's electricity price will be linked via Basslink to electricity prices affected by Victoria's marginal brown-coal generators. If (as the Treasury/MMA modelling predicts) these generators are able to pass-through permit prices at more than 100 per cent, there is a real possibility of significant value loss at a 'clean green' facility like Bell Bay. This would be perverse in the extreme given most of China's aluminium production is supplied by coal-fired electricity.

Even with 90 per cent allocation of permits for aluminium and 60 per cent allocation of permits for alumina, it is highly unlikely that the sort of output growth estimated by the Treasury modelling will eventuate.⁸⁸

Agriculture

5.94 There are a number of issues that have led the government to decide to not directly include the agricultural industry in the CPRS at commencement. These include complexity in estimating emissions and the fact that over 100 000 entities exist, many of which produce small amounts of emissions.⁸⁹

5.95 The committee received evidence of the impact of the CPRS on the agricultural industry, both from the introduction of the scheme when agriculture will not be directly included, and if it is covered from 2015.

5.96 The agricultural industry will be affected from the commencement of the scheme, even though it will not be directly covered, as a result of increased costs in fuel and energy. Cropping is particularly exposed due to high fuel use, and dairy has a high exposure to electricity costs.⁹⁰

5.97 The National Farmers' Federation explained:

87 Mr Ison, AAC, *Committee Hansard*, 8 December 2008, p. 34; Mr McAuliffe, Alcoa of Australia; *Committee Hansard*, 17 February 2009, p. 31.

88 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 29.

89 Australian Government, *White Paper*, December 2008, p. 6.44.

90 Mr Charles McElhone, Economics Manager, National Farmers Federation (NFF), *Committee Hansard*, 19 November 2008, p. 5.

Fuel and energy represent about 10 per cent of the direct cost base of the farmers or farm sector, but that escalates to up to 45 per cent of the cost base when you take into account both the direct and indirect costs, such as contracting, fertilisers and freight. It is a significant cost for our sector and a key issue for us right now.

...the Carbon Pollution Reduction Scheme and the impact that that will have on fuel and energy costs, particularly for the farm sector. This is a key issue for us, especially how it will impact on our international competitiveness moving forward. We export 70 per cent of what we produce and we are not proud of the fact that we have a notorious incapacity to pass on additional costs that we see through our supply chain. Additional costs of fuel and energy will be a significant burden on our sector.⁹¹

5.98 The National Farmers' Federation noted that prior to the inclusion of agriculture in the scheme:

Even though our cost base will increase and our international competitiveness may be exposed, there is no plan within that EITE framework to provide any assistance along those lines.⁹²

5.99 It has been estimated that the impact of the CPRS on the agricultural industry could be significant 'even as an uncovered sector, profit margins could decrease by up to 10 per cent in some sectors.'⁹³

5.100 Mr Leon Bradley Chairman of the Western Graingrowers Committee and Climate Change Spokesman for the Pastoralists and Graziers Association of Western Australia, pointed out that 'Farming is a game of fine margins and any increase of costs is going to disadvantage farming and agriculture.'⁹⁴

5.101 Dr Fisher was also of the view that increased fuel and energy prices following the introduction of the CPRS will impact the agricultural sector:

Just because agriculture is excluded from the scheme in the first five years does not mean that farm costs will not rise. Suppliers of inputs such as electricity and diesel will have to purchase permits and a large share of those costs will be passed on. In the cropping sector, almost 40 per cent of input costs come from emission-intensive inputs, while in livestock the

91 Mr McElhone, NFF, *Committee Hansard*, 19 November 2008, p. 2.

92 Mr McElhone, NFF, *Committee Hansard*, 19 November 2008, p. 3.

93 Mr McElhone, NFF, *Committee Hansard*, 19 November 2008, p. 4.

94 Mr Leon Bradley, Chairman, Western Graingrowers Committee and Climate Change Spokesman, Pastoralists and Graziers Association of Western Australia, *Committee Hansard*, 18 February 2009, p. 40.

share is about 17 per cent. Competitors in key developing countries will not be subject to such cost increases.⁹⁵

5.102 It is anticipated that there would be a significant impact on the agricultural sector if it is included in the CPRS in the future. The 'agricultural sector is very emissions intensive. In particular livestock-based industries...are very emissions intensive...in the short term facing a carbon price for agricultural producers will be very expensive.'⁹⁶

5.103 The Australian Farm Institute argued that the livestock industry would be particularly hard hit if included in the CPRS:

If grazing enterprises had to pay for their estimated emissions on the basis of how they are accounted now, I find it very hard to see how grazing could be viable.⁹⁷

5.104 Mr David Pearce from the Centre for International Economics argued that there is a significant risk of carbon leakage if Australia is the only country to impose a carbon cost on agriculture:

In the circumstance where only Australia imposes, for example, a carbon price on agricultural emissions, and nobody else does, there is a big loss of competitiveness for our domestic industry and a big impetus to reduce exports and increase imports.⁹⁸

5.105 The coverage of agriculture is a particular issue because:

...in terms of the emissions profile of Australian agriculture and Australian livestock production that, as per unit of production, we are a lower-intensity emitter than are the majority of our OECD competitors. There is the real risk that if we shut down or limit our opportunities here with our domestic industry, then the global consumer will purchase their livestock needs from elsewhere.⁹⁹

The need for a level playing field – a global agreement

5.106 The committee heard evidence from a number of witnesses stating that without a global agreement on reducing greenhouse gas emissions, the competitiveness of Australian industry will be significantly compromised, and carbon leakage will be a very real threat.

5.107 The Minerals Council of Australia articulated the argument succinctly:

95 Dr Brian Fisher, Concept Economics, *A Peer Review Of The Treasury Modelling Of The Economic Impacts Of Reducing Emissions*, 30 January 2009, p. 30.

96 Mr Pearce, CIE, *Committee Hansard*, 2 April 2009, p. 30.

97 Mr Keogh, Australian Farm Institute, *Committee Hansard*, 19 February 2009, p. 38.

98 Mr Pearce, CIE, *Committee Hansard*, 2 April 2009, p. 31.

99 Mr McElhone, NFF, *Committee Hansard*, 19 November 2008, p. 7

The Australian resource industry can compete very well in a carbon constrained world. It cannot compete with the rest of the world in a carbon constrained Australia that is out of touch with the rest of the world. That is the issue.¹⁰⁰

5.108 A number of industries noted that if a global agreement on emissions reduction was put in place, with a global carbon price, all issues regarding carbon leakage and assistance to industry would be resolved. As Ms Robinson of APPEA stated:

If the world agrees to a carbon price, there is no issue. The issues for us, and probably most industry, dissolve because there will become that level playing field...¹⁰¹

5.109 Caltex Australia echoed this argument, stating:

We are not asking for special treatment against imports, just a level playing field. Once competitors have the same carbon costs, we are willing to bear the same costs and emission trading should work as intended to help reduce emissions.¹⁰²

5.110 The CFMEU suggested that to address issues surrounding carbon leakage, global sectoral agreements could be put in place, noting that they would be easier to achieve than multilateral agreements.¹⁰³

Conclusion

5.111 In conclusion, the majority of evidence received by the committee on the issue of the international competitiveness of Australian industry and carbon leakage can be summed up with the following quote: 'it would be a perverse outcome if the implementation of the CPRS in Australia led to a result which added to global emissions.'¹⁰⁴

Committee comment

5.112 The committee considers that in the absence of an appropriate global framework the CPRS as currently designed will not sufficiently mitigate the risk of carbon leakage.

5.113 The committee is of the view that:

100 Mr Coates, MCA, *Committee Hansard*, 8 December 2008, p. 9.

101 Ms Robinson, APPEA, *Committee Hansard*, 19 November 2008, p. 29.

102 Mr Frank Topham, Manager, Government Affairs and Media, Caltex Australia, *Committee Hansard*, 20 February 2009, p. 50.

103 Mr Colley, CFMEU, *Committee Hansard*, 19 November 2008, p. 121.

104 Ms Cusworth, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 18 February 2009, p. 17.

- EITE assistance should be expanded so that it is based on production rather than on an activity basis;
- EITE assistance should be maintained at commencement levels until major competitors face comparable carbon costs;
- The coal mining industry should not be excluded from EITE assistance;
- Appropriate recognition should be given to those industries that contribute to a global reduction in emissions, such as LNG.

Recommendation 9

5.114 The committee recommends that the CPRS EITE assistance measures:

- (a) be reviewed to consider providing assistance on a production basis;**
- (b) be maintained at commencement levels until Australia's major competitors face comparable carbon costs; and**
- (c) not exclude the coal mining industry.**

Recommendation 10

5.115 The committee recommends that recognition should be given to those industries that contribute to a global reduction in emissions, such as LNG.

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...

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...

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...

...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

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.

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.

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.

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—

...

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.

...

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

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 mines²⁴ 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

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.

...

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

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.

Chapter 7

Impact of the Carbon Pollution Reduction Scheme on job security, and Australia's states and regions

Introduction

7.1 As discussed in chapter 5, the proposed Carbon Pollution Reduction Scheme (CPRS) will have a significant impact on trade exposed industries. Chapter 7 explores the evidence provided to the committee regarding how this will impact on employment, including the effects of this in particular states and regions.

7.2 The majority of evidence received by the committee indicated that there will be significant job losses as a result of the CPRS if implemented in its current form, particularly in trade exposed industries. Although there may be some job opportunities in emerging 'green industries', the evidence indicates that these are unlikely to offset the jobs lost, particularly those lost in trade exposed industries.

Employment security

7.3 The Australian Workers' Union (AWU) unequivocally communicated their view on the importance of employment security:

Every job in every enterprise is important to us and the AWU will be doing everything in its power to retain these jobs for the future to maintain the living standards of our workers and the health of our communities and the future for our children.¹

7.4 The majority of evidence addressing the employment implication of the CPRS indicated that there would be significant job losses, particularly in regional areas, and they would fall most heavily in trade exposed industries. The committee also received evidence regarding opportunities for growth in employment in low emissions industries.

7.5 The modelling undertaken by the Department of the Treasury (the Treasury) indicated the share of employment will decline in the following sectors in the CPRS -5 scenario as against the reference case: coal mining, gas mining, refinery, aluminium, coal fired electricity, construction, accommodation and hotels, and other services. Sectors that increase the share of employment in the modelling are dairy cattle, grains, forestry, other food, other manufacturing, other electricity, business services and public services.²

1 Tabled Document, *Paul Howes' Opening Statement, Monday 02/02/09*, tabled by Mr Brad Crofts, Environmental Economist, Australian Workers' Union, 19 February 2009.

2 Australian Government, *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, 2008, p. 165.

7.6 However, the committee notes that given the Treasury assumed in its modelling that 'full employment' would be maintained (as noted in chapter 4), no conclusions can be drawn at all from the Treasury modelling in terms of the overall impact of the proposed CPRS on jobs.

7.7 The committee received evidence from Mr Daniel Price from Frontier Economics noting that:

...when one of these models has produced an outcome of full employment, it is a modelling assumption; it is not a modelling result...But the way the model seeks to achieve full employment is to adjust Australian industry, and the way it does that is to change, mostly, real wages.

...

So, if you want to achieve full employment in the model, real wages decline because what is happening is that our costs are going up because of an emissions trading scheme. To remain internationally competitive, something has to give.³

7.8 In the committee's view the way in which the Treasury modelling information on employment levels was presented by the government is misleading. For example, it is obvious based on the evidence that any increase in so called 'green jobs' in the Treasury modelling is merely the result of the assumption of 'full employment' being maintained. That is, if jobs are lost in all other industries, to comply with the government's forced assumption of 'full employment', 'green jobs' have to increase in the model, even if they will not grow in reality.

7.9 The committee heard evidence from a number of trade exposed industries stating that unless Australia's competitors are forced to take similar emissions reduction action, the CPRS will result in reduced production or future investment in Australia, which will lead to job losses. The industries which gave evidence to the committee include cement, coal mining, aluminium and steel.

7.10 For example, Mr Michael Hitchens from the Australian Industry Greenhouse Network stated, particularly in relation to trade exposed industries:

The proposals that are in the emissions trading scheme—in the white paper—do not, as I said, fully offset the competitive disadvantages that those Australian companies will face. That will have an impact on both jobs and investment in those industries in Australia.⁴

7.11 A similar view was expressed by Mr Ralph Hillman of the Australian Coal Association, who stated 'there will be job losses as a result of the CPRS and...they

3 Mr Daniel Price, Managing Director, Frontier Economics, *Committee Hansard*, 2 April 2009, pp 16-17.

4 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network (AIGN), *Committee Hansard*, 2 February 2009, p. 35.

will impact on regional areas.⁵ He continued by explaining that the jobs that are at risk include 'substantial construction jobs as well as ongoing jobs for the actual mining operation.'⁶

7.12 In addition to potential job losses in industries that are considered trade exposed, Qantas, which as discussed in chapter 3 is not considered to be strongly affected, argued that the CPRS will impact on jobs in the aviation sector: 'It is possible that, by adding a further significant deadweight cost to the business that we have to absorb, it is possible that there are further implications'.⁷

7.13 When asked about the changes to the structure of the Australian economy and resultant changes to jobs, Mr David Pearce of the Centre for International Economics explained to the committee that:

I expect that some [jobs] will appear in Australia and some will appear overseas. Also, it is of course very unlikely that it will be the same person who loses a job in the coal industry and then becomes a software engineer in some other industry. It is clearly most likely to be a different person. This really comes to my point that we do not really understand a lot about the short-term and transitional consequences of the CPRS, and the transitional effects are very, very microeconomic. They are exactly the things you are talking about. The transitional costs are experienced at the very micro level.⁸

7.14 Contrary to the view that significant job losses were inevitable, in particular in coal mining and in the steel industry, as expressed by every employer or employer group appearing before the inquiry, the committee considered the views expressed by union officials to be surprisingly optimistic.

7.15 The Construction, Forestry, Mining and Energy Union (CFMEU) was one of only a few witnesses who maintained that the union does 'not think there will be job losses in coalmining due to the CPRS'.⁹

7.16 Mr Paul Howes, National Secretary of the Australian Workers' Union, stated 'I do not believe that a single member of mine needs to lose their job because of the

5 Mr Ralph Hillman, Executive Director, Australian Coal Association (ACA), *Committee Hansard*, 2 April 2009, p. 8.

6 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 8.

7 Mr Peter Broschovsky, Group General Manager, Environment and Fuel Conservation, Qantas Airways, *Committee Hansard*, 19 November 2008, p. 45.

8 Mr David Pearce, Executive Director, Centre for International Economics (CIE), *Committee Hansard*, 2 April 2009, p. 32.

9 Mr Peter Colley, National Research Director, Mining and Energy Division, Construction, Forestry, Mining and Energy Union (CFMEU), *Committee Hansard*, 19 November 2008, p. 117.

advent of the CPRS.¹⁰ Mr Howes, however argued that the effects of the global financial crisis need to be taken into consideration and companies provided assistance to protect businesses and jobs:

I think it is important that during the Senate's deliberations on the legislation that thought is given to how we best assist companies that are in severe financial distress at the moment, regardless of the carbon price once the ETS is introduced...¹¹

7.17 Further, Mr Howes argued that there may need to be:

...a strong mechanism to allow companies who are severely affected by the global financial crisis to possibly have a quarantine or an additional application just for the period of the financial crisis...¹²

7.18 A number of witnesses discussed the possibility of new 'green jobs', some of whom argued that Australia should take up the opportunity to develop new industries and gain from this new area of growth.

7.19 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) argued that:

...achieving a rapid transition to sustainability via emission trading and related mechanisms would have little or no impact on national employment...achieving the transition will require a massive mobilisation of skills and training – both to equip new workers and to enable appropriate changes in practices.¹³

7.20 Mr Howes stated 'you can see there is potential for the expansion of new jobs in new industries, such as alternative fuel sources, carbon capture and storage and so on'.¹⁴

7.21 The Australian Conservation Foundation agreed enthusiastically that 'there is a major potential in green industries, renewable energy and recycling'.¹⁵

7.22 Pacific Hydro argued that an increase in renewable energy will create:

...tens of thousands of jobs...they are not some kinds of devalued jobs in the economy. The jobs that we talk about are the same sorts of jobs that you

10 Mr Paul Howes, National Secretary, Australian Workers' Union, *Committee Hansard*, 2 February 2009, p. 72.

11 Mr Howes, AWU, *Committee Hansard*, 2 February 2009, p. 71.

12 Mr Howes, AWU, *Committee Hansard*, 2 February 2009, p. 72.

13 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Submission 25*, p. 10.

14 Mr Howes, AWU, *Committee Hansard*, 2 February 2009, p. 74.

15 Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation, *Committee Hansard*, 2 February 2009, p. 92.

would have in a coalmine—electrical engineers, steel fitters, concreters and things like that.¹⁶

7.23 The Queensland Resources Council agreed that job opportunities are likely to emerge in the renewable energy sector, however raised the issue of the need to consider the full impact of different types of jobs:

I think probably the modelling that needs to be done...is the multiplier effects of those jobs. Do we get the equivalent multiplication of mining from 50,000 to 216,000 jobs as in Queensland?...That would be an important piece of analysis to be able to compare like with like.¹⁷

7.24 Mr Hillman also raised the issue of a job in one industry not necessarily being of equivalent value to the economy as a job in another industry, arguing that the loss of coal mining jobs will be particularly costly:

...coalmining is globally competitive and a totally competitive industry. It can stand on its own feet without any government assistance, and we are constantly irritated to see references in the press to coalmining receiving assistance. The only assistance it receives is the fuel rebate that every other operation in Australia receives. So what you are going to do is replace globally competitive jobs, something Australia does better than anybody else in the world, with jobs which are probably going to have a substantial element of subsidy—such as wind farms that are based on a substantial element of subsidy provided by the proposed renewables target. So in a way they are second-rate jobs in that respect.¹⁸

7.25 The committee understood the issue of potential job losses to be of particular importance because of the impact of the global financial crisis (GFC) on employment. For example, Mr Hillman, Executive Director of the Australian Coal Association informed the committee that the GFC 'has had an enormous impact on the coal industry...We have 3000 redundancies already declared. There is the prospect of more'.¹⁹

7.26 The committee, on assessing the evidence provided regarding employment, was concerned that the 'green jobs' that may be created as a result of the change to a lower emissions economy would not offset the jobs that are likely to be lost as a result of the implementation of the CPRS. Further, the committee was particularly concerned by the evidence indicating that those who lose their jobs are not likely to be the same people who will be employed in emerging industries, therefore potentially

16 Mr Andrew Richards, Executive Manager, Government and Corporate Affairs, Pacific Hydro, *Committee Hansard*, 2 April 2009, p. 38.

17 Mr David Rynne, Principal Adviser, Industry Policy, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 37.

18 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 9.

19 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 3.

leaving those who lose their jobs with very few options. This is of particular concern given the current economic circumstances.

Impact on Australian states

7.27 The committee received evidence about the impact of the CPRS on Australian states, particularly Queensland and Western Australia, which have a high number of trade exposed industries.

7.28 The Department of the Treasury modelling examined the impact of emission pricing across states:

Real gross state product (GSP) falls in most states/territories (Chart 6.17 and 6.18). Generally, the faster growing states, Queensland and Western Australia, face the greatest impacts from emission pricing...

The impact of emission pricing on GSP is heavily influenced by differences in industry composition and the degree of export orientation across states.²⁰

Queensland

7.29 The Department of the Treasury informed the committee that 'Queensland is the most affected state of Australia, with South Australia being the least affected state.'²¹ However:

While Queensland is the most emissions intensive state and it is expected to be most affected relative to the reference scenario, the Queensland economy in absolute terms under the CPRS minus five scenario by 2050 is expected in the modelling to have the strongest growth over that period of any state...the modelling is that Queensland will still experience the highest economic growth over the next 40 years even though it is the most affected state as a result of the CPRS minus five scenario.²²

7.30 The Australian Coal Association explained to the committee that 2700 of the redundancies in the coal industry which were as a result of the GFC were in Queensland.²³

7.31 The Queensland Resources Council explained the importance of the coal industry and mining more broadly to Queensland:

Coal is the most significant export commodity produced in Queensland and accounts for approximately half of the mining sector's economic and employment contribution. As at November 2008, the coal sector had in

20 Australian Government, *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, 2008, p. 159.

21 Ms Meghan Quinn, Manager, Climate Change Modelling Division, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 68.

22 Ms Quinn, Department of the Treasury, *Committee Hansard*, 2 April 2009, p. 83.

23 Mr Hillman, ACA, *Committee Hansard*, 2 April 2009, p. 3.

excess of 22,000 fulltime equivalent employees. It goes without saying that mining is critical to the prosperity of regional Queensland.

...

The broader resources sector in Queensland employs directly about 50,000 people, but with the multiplier effects you are talking about another 216,000 people.

...

We are talking about 12 per cent of Queensland employment that is in the resources sector.²⁴

7.32 The Queensland Resources Council also argued that Queensland is receiving insufficient compensation through the Electricity Sector Adjustment Scheme (ESAS):

Despite estimations that the CPRS will impose a \$3 billion direct asset loss on Queensland's black coal fired generation fleet over their remaining lives, it is not clear why they will only receive two per cent, or \$60 million, of the proposed assistance measures during the first five years of operation of the CPRS under the Electricity Sector Adjustment Scheme. By contrast, and despite having very high emissions intensities, Victorian brown coal fired generation assets are expected to receive \$3.4 billion in direct assistance, representing approximately 75 per cent of asset losses associated with the introduction of the CPRS.²⁵

Western Australia

7.33 The committee also heard evidence about the impact of the CPRS on Western Australia.

7.34 The Western Australia Department of Treasury and Finance argued:

Western Australia is the most trade-exposed state in the country. About 45 per cent of our income in 2006-07 was derived from exports compared to 20 per cent nationally. The final scheme design and how it treats trade-exposed emissions-intensive industries is what will drive how Western Australia fares under the emissions-trading scheme...²⁶

7.35 The Chamber of Commerce and Industry of Western Australia argued that the people of Western Australia will experience the greatest impact:

Mr Canion—Clearly, WA is an isolated location. We rely on freight to get products in and out of the country, and it is long-distance freight at every turn. This adds a cost impost right through the economy, so we are very

24 Mr Michael Roche, Chief Executive, Queensland Resources Council, *Committee Hansard*, 20 February 2009, pp 25, 35 and 36.

25 Mr Roche, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 28.

26 Ms Amy Lomas, Assistant Director, Emissions Trading Unit, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 17 November 2008, p. 117.

vulnerable to changes and fluctuations in fuel pricing. That gets passed right through the supply chain down to the end user or consumer of that product.

CHAIR—More so than in any other state?

Mr Canion—We believe so, based on our geographic isolation and, also, a lot of our heavy industry is in the north-west of the state, which is one step further again from Perth, and you are talking thousands of kilometres potentially to travel.²⁷

7.36 The Western Australia Department of Treasury and Finance argued that Western Australian consumers will be paying higher prices for energy to benefit Eastern Australia:

...the community pays for an emissions-trading scheme in the form of higher energy prices, but in Western Australia the major structural adjustment will be observed on the east coast, so a consumer paying more for energy in Western Australia does not necessarily see a large number of new gas-fired projects or renewables coming onstream. They are paying for that to happen on the east coast, which is really the point of an emissions-trading scheme: where it is cheapest for these things to happen is where you will see it happen first.²⁸

7.37 The issue of the distribution of the ESAS compensation was also raised in regard to Western Australia by Griffin Energy:

Mr Trumble—...90 per cent is going to approximately four very large brown-coal-fired plants in Victoria and South Australia.

CHAIR—How much of it is going to Western Australia?

Mr Trumble—\$24 million of the \$3.9 billion is returning to Western Australia to two plants owned by the state owned generator, Verve Energy.²⁹

7.38 The Western Australia Department of Treasury and Finance argued that as a result of the CPRS:

We will see a shift away from the intermediate processing, particularly in the resource industries. So where we have, say, gold refining or processing base metals up into concentrates, the emissions-trading scheme will distort the activity away from that value-adding process and push it back towards

27 Mr Andrew Canion, Senior Advisor, Industry Policy, Chamber of Commerce and Industry of Western Australia, and Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, *Committee Hansard*, 17 November 2008, pp 6-7.

28 Ms Lomas, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 17 November 2008, p. 115.

29 Mr Wayne Trumble, Executive General Manager, Power Generation, Griffin Energy, and Senator Mathias Cormann, Chair of the Senate Select Committee on Fuel and Energy, *Committee Hansard*, 18 February 2009, p. 6.

more the raw materials. That would be contrary to perhaps how state governments have wanted to develop the Western Australian economy away from a 'dig it up and ship it off' economy into a more value-added economy. This will provide a driver back towards digging it up.³⁰

7.39 The committee is concerned about the impact of the CPRS on Western Australia, given the economy of Western Australia is resource and energy intensive and relatively less diversified and mature than the economies of the eastern states.

7.40 The committee is of the view that the CPRS as proposed will constrain Western Australia's ability to diversify and mature its economic base by developing value adding economic activities.

7.41 As discussed in chapter 6, the committee also received evidence about the energy security issues facing Western Australia.

Impact on regional areas

7.42 Mr Price confirmed to the committee that the New South Wales (NSW) Government commissioned Frontier Economics to undertake modelling of the impact on regional areas of the CPRS as proposed in the Green Paper.³¹ The Frontier Economics report provided to the NSW Government was released to News Limited following a Freedom of Information request.³²

7.43 The Frontier Economics modelling reportedly found that the effect of the CPRS would be 'much more severe' in the states and regions where the economy is based on emissions intensive industries.

The modelling found the impact on coal prices would mean the economies of Gippsland and central-west Queensland contracting by more than 20 per cent.

The gross regional product of the Hunter Valley in NSW and central Western Australia would fall by about 20 per cent...³³

7.44 The modelling also reportedly found that the economy of the Kimberley region would contract by over 25 per cent.³⁴ The committee notes the evidence provided by Mr Price that given the changes to the treatment of liquid natural gas

30 Ms Lomas, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 17 November 2008, p. 118.

31 See evidence from Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, pp 13-15.

32 See evidence from Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 15.

33 Lenore Taylor and Imre Salusinsky, 'ETS "to shrink regional growth"', *The Australian*, 26 March 2009, p. 1.

34 Lenore Taylor and Imre Salusinsky, 'ETS "to shrink regional growth"', *The Australian*, 26 March 2009, p. 1.

(LNG) in the White Paper, the impact on the Kimberley region will not be this severe.³⁵

7.45 On 2 April 2009, the committee requested that the NSW Government provide the report as prepared by Frontier Economics to the committee. At the date of publishing no response has been received by the committee.

7.46 The *State of the Regions 2008-09* report concluded:

The cost of climate change (enhanced water security, loss of production and carbon prices) will fall disproportionately on non-metropolitan regions. Non-metropolitan region households will have up to double the cost of climate change, compared to metropolitan regions, with only a quarter to half the capacity of metropolitan regions, in terms of income and wealth, to absorb the additional costs of climate change.³⁶

7.47 The committee received a considerable amount of evidence regarding the impact of the CPRS on regional areas. The disproportionate impact is largely due to the location of many trade exposed industries in regional areas. Mr Price of Frontier Economics put the view: 'If carbon intensive regions were not adversely affected, the whole scheme would not work.'³⁷

7.48 Mr Price explained to the committee that Frontier Economics has undertaken modelling which shows that regional economies will contract by 20 per cent compared to the reference case, in which there is no emission trading scheme (ETS).³⁸ He stated that modelling showed the following regions will most likely be affected by the introduction of an ETS:

Central Queensland, South-West Queensland, the Hunter-Illawarra, Gippsland, which is the Latrobe Valley, pockets of South Australia—very severe effects on South Australia because they have so little industry. The Kimberleys before—they will still be affected but not as badly as our initial results.³⁹

7.49 Consistent with the view put to the committee by a number of organisations from regional areas, the Gladstone Chamber of Commerce and Industry expressed concern that there is no publicly available government modelling that shows the impact of the CPRS on regional areas.⁴⁰

35 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 14.

36 National Economics/Australian Local Government Association, *State of the Regions 2008-09*, [p. 1] preface.

37 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 18.

38 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 14.

39 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, p. 19.

40 Mr Rocky Donovan, Vice President and Mr James Robertson, President, Gladstone Chamber of Commerce and Industry, *Committee Hansard*, 7 April 2009, p. 20.

7.50 The National Institute of Economic and Industry Research informed the committee that their research indicated the areas that will be hardest hit by the CPRS are those that have significant emissions intensive industries:

Because the resource industries—that is, mining and smelting and so forth—are emissions intensive, you end up with the non-coastal Queensland, plus parts of the Queensland coast—places like Townsville—remote Western Australia, South Australia north of Port Augusta. You also end up, fairly obviously, with the areas where heavy industry is still quite important—places like Wollongong and the western suburbs of Melbourne. So it is not entirely a remote area hit. It is simply a reflection of where the carbon-intensive industries are.⁴¹

7.51 The CFMEU explained that:

...the mining and power generation industries take place primarily in regional areas rather than in major urban areas and that because of that they tend to have a significant multiplier effect on jobs at the regional level.⁴²

7.52 The Australian Coal Association pointed out that in addition to employing a large number of people in regional areas, it contributes 'to the social fabric of the nation, including through the underwriting of significant rail and port infrastructure as well as social infrastructure in regional and more remote communities.'⁴³

7.53 The National Farmers Federation also argued that the CPRS may have a disproportionate impact on regional areas:

The other issue is the potential for a disproportionate impact on regional communities. We must remember that regional communities have limited access to public transport works and also are more exposed to fuel for transportation over greater distance. Therefore they have greater exposure to fuel use, which means that potentially they could be disproportionately affected by any emissions trading scheme implemented on the domestic market.⁴⁴

7.54 Virgin Blue argued that aviation:

...is the key to the viability of many Australian regional economies.

...

When we go to a regional centre, us taking an aircraft there is far more than us providing air travel. The reason that regions like us to go there is because

41 Dr Ian Manning, Deputy Executive Director, National Institute of Economic and Industry Research, *Committee Hansard*, 17 February 2009, p. 24.

42 Mr Colley, CFMEU, *Committee Hansard*, 19 November 2008, p. 109.

43 Mr Burt Beasley, Acting Executive Director, Australian Coal Association, *Committee Hansard*, 2 February 2009, p. 58.

44 Mr Charles McElhone, Economics Manager, National Farmers Federation, *Committee Hansard*, 19 November 2008, p. 2.

of the ongoing economic impact that we have. You need it to sustain those regional environments.

...

When we go into a new market, by providing reduced fares in that market, we stimulate activity. That activity is not just the airfare; it is the hotels and the taxi fares and all the other things that go with stimulating a local regional economy.⁴⁵

7.55 The Australian Council of Social Service stated:

We have real concern for those communities likely to be adversely affected by change, but we think also that much of this change will be a while in coming and that arrangements can be put in place for transition.⁴⁶

7.56 The Australian Council of Social Service also pointed out that despite the difficulties faced by some communities, new opportunities are likely to arise:

There are going to be some particular communities that suffer extremely adverse effects and some categories of workers and some industries. But on the other hand—and I think we have worked very hard to look at the other hand in recent times—there ought to be industries and opportunities that spring up in those opportunities in place.⁴⁷

7.57 Pacific Hydro explained that employment in the renewable energy industry is based in regional areas.⁴⁸ Similarly, the Biofuels Association of Australia informed the committee that the majority of jobs in the biofuels industry are in regional areas.⁴⁹ Therefore if these industries grow, this is likely to have a positive affect on employment in regional areas. The Biofuels Association of Australia argued that:

If the biofuels industry in Australia was provided with the right policy environment then the Biofuels Association of Australia believes...This would create 3,000 green jobs in regional Australia and when indirect employment flow on effects are taken into account, a further 1,280 green jobs in regional Australia. In total regional Australia would benefit by 4,280 green jobs.⁵⁰

45 Mr Simon Thorpe, General Manager, Safety Systems, Virgin Blue Airlines, *Committee Hansard*, 20 February 2009, pp 12, 14 and 15.

46 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service (ACOSS), *Committee Hansard*, 19 February 2009, p. 3.

47 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 11.

48 Mr Bernard Wheelihan, Chair, Pacific Hydro, *Committee Hansard*, 2 April 2009, p. 38.

49 Mr Ross Beames, Member, Biofuels Association of Australia, *Committee Hansard*, 20 February 2009, p. 47.

50 Biofuels Association of Australia, answer to questions on notice, 20 February 2009 (received 20 March 2009).

7.58 The committee considered the issue of the impact of the transition from jobs in one industry, for example coal, to jobs in another industry, for example renewable energy. Mr Price informed the committee that:

...the actual transitional pain that we see from any structural change in industry is in fact completely assumed away in these models [used by Treasury].

...

The cost of all the friction that causes the economy not to adjust as seamlessly and costlessly is not included. None of the actual social costs of dislocating communities are included. I think that is going to be pretty severe. It is unlike any other policy in that it comes along and almost overnight changes the relative economics of industry.⁵¹

7.59 One of the main themes of the evidence received by the committee in regional areas was highlighted by Mr Glenn Churchill representing Gladstone Area Promotion and Development Limited who explained that:

...there needs to be a balanced community awareness program so that everybody can be aware of what this truly means from the industrial giants right down to Mr and Mrs Smith.⁵²

7.60 The Australian Chamber of Commerce and Industry also argued for an educative initiative to inform small business of the impact of the CPRS on their operations.⁵³

Assistance for people in regional areas

7.61 The Department of Climate Change explained that while the assistance for emissions intensive trade exposed (EITE) industries is designed nationally, those areas with more EITE exposure will receive more compensation.⁵⁴

7.62 The Western Australia Department of Treasury and Finance argued for more assistance to be allocated to regional communities, rather than to coal fired power generators:

That assistance, instead of being provided to a coal-fired power generator, may actually be better off being provided directly to the community or the regions that will be experiencing that structural adjustment more acutely, because that adjustment will occur regardless of the provision of that

51 Mr Price, Frontier Economics, *Committee Hansard*, 2 April 2009, pp 19 and 21.

52 Mr Glenn Churchill, Chief Executive Officer, Gladstone Area Promotion and Development Limited, *Committee Hansard*, 7 April 2009, p. 39.

53 Mr Greg Evans, Director Economics, Australian Chamber of Commerce and Industry, *Committee Hansard*, 8 December 2008, p. 61.

54 Mr Barry Sterland, First Assistant Secretary, Emissions Trading Division, Department of Climate Change, *Committee Hansard*, 19 November 2008, p. 73.

assistance, so those communities will experience the impacts of that regardless of the provision of assistance to the generator.⁵⁵

7.63 Further, the department argued:

...there may really be a case for regional and remote households to receive additional assistance to help them adjust to the Carbon Pollution Reduction Scheme above and beyond the standard level of assistance that is proposed to be provided to households in the Commonwealth's green paper.⁵⁶

7.64 The Australian Workers' Union argued that any assistance should be designed to support ongoing employment:

My primary concern would be to ensure that the assistance that will be made available will actually support our industries and workers—that workers maintain their jobs and industries remain profitable—that it is a key contribution that the assistance could be making to the economy.⁵⁷

7.65 The committee sought information from regional areas considered likely to be impacted by the CPRS, and held public hearings in Wollongong, Mackay and Gladstone. The report now considers the evidence regarding specific regional areas.

Regional Queensland

7.66 The committee heard evidence on the impact the CPRS is likely to have on the regional economy and future investment in regional Queensland.

7.67 The Queensland Resources Council informed the committee that 'in the central and north-west regions...mining accounts for approximately 90 per cent of those regions' economies.⁵⁸

7.68 As discussed in chapter 5, Cement Australia has put on hold a possible expansion to their Gladstone plant, pending the outcome of the CPRS, putting at risk 50 ongoing jobs and hundreds of construction jobs.⁵⁹

7.69 The Gladstone Chamber of Commerce and Industry argued that they are 'concerned that the only real burden from a carbon trading scheme will be imposed on citizens and small business and large industry will be exempt.'⁶⁰

55 Ms Lomas, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 17 November 2008, p. 115.

56 Ms Lomas, Department of Treasury and Finance, Western Australia, *Committee Hansard*, 17 November 2008, p. 116.

57 Mr Bradley Crofts, Economist, Australian Workers' Union, *Committee Hansard*, 19 February 2009, p. 52.

58 Mr Roche, Queensland Resources Council, *Committee Hansard*, 20 February 2009, p. 25.

59 Mr Stuart Ritchie, National Sustainability Manager, and Mr Matthew Lawson, Commercial Manager, Gladstone Plant, Cement Australia, *Committee Hansard*, 7 April 2009, pp 9-10.

7.70 The Mackay Regional Council explained to the committee the impact of the CPRS on local councils, including the cost of emissions from landfill and increased costs for fuel and energy. The council informed the committee that the only method of funding the increased costs was by increasing rates, which they estimated may need to rise by as much as 10 per cent.⁶¹

7.71 On the issue of green jobs, the Gladstone Area Promotion and Development Limited argued that green jobs 'are the way of the future', however 'not to the detriment of current jobs and the potential for jobs especially in the Surat basin with the future of the coal industry.'⁶²

7.72 However, the Gladstone Regional Council stated that it is unlikely that sufficient green jobs would be created in the region to off-set the possible job losses.⁶³

7.73 Mr David Phillips, the General Manager of Mackay Tourism highlighted the importance of the tourism industry to the area, employing 6000 full-time people in the region. Mr Phillips explained that most of the tourism operators 'are acutely aware of the need to protect and sustain our environmental performance in this region.'⁶⁴ Mr Phillips also explained that the coal industry is critical to the tourism industry in the area as 'It is through the coal industry that Mackay airport...enjoys the airline frequency and the number of seats that it does.'⁶⁵

Wollongong

7.74 Mr Arthur Rorris, Secretary of South Coast Labour Council (the Labour Council), explained that the Wollongong area has 'a significant base of heavy industry' which 'employs...thousands of workers locally and makes up what we call the backbone of the regional economy.'⁶⁶

7.75 Mr Rorris further explained that the Labour Council:

...wants to explore the options for the region to create the so-called green jobs, or sustainable jobs...It is something that our region needs to pursue in

60 Mr Robertson, Gladstone Chamber of Commerce and Industry, *Committee Hansard*, 7 April 2009, p. 16.

61 Councillor Darryl Camilleri, Deputy Mayor and Mr Barry Omundson, Director, Commercial Services, Mackay Regional Council, *Committee Hansard*, 6 April 2007, pp 31-34.

62 Mr Churchill, Gladstone Area Promotion and Development Limited, *Committee Hansard*, 7 April 2009, p. 36.

63 Councillor George Creed, Mayor, Gladstone Regional Council, *Committee Hansard*, 7 April 2009, p. 27.

64 Mr David Phillips, General Manager, Mackay Tourism, *Committee Hansard*, 6 April 2009, p. 23.

65 Mr Phillips, Mackay Tourism, *Committee Hansard*, 6 April 2009, p. 27.

66 Mr Arthur Rorris, Secretary, South Coast Labour Council, *Committee Hansard*, 1 April 2009, p. 16.

order to be relevant in the post-climate-change world...our ability to plug into that new green economy...will depend on our ability to retain our heavy industry and our heavy industry infrastructure. We see our manufacturing and our related base as the key to actually being competitive in the new green economy...What we are saying, therefore, is that the new green economy⁶⁷ is one that will be built on the back of our existing industrial base.

7.76 Mr Noel Cornish, the Chief Executive of BlueScope Steel, explained that:

Currently in the Illawarra we employ 4,700 people. A study that was undertaken in 2006 by an independent research organisation showed that our multiplier effect of indirect jobs is somewhere between 12,000 and 16,000 additional jobs in the Illawarra.⁶⁸

7.77 Describing what he foresees as the impact of the CPRS on BlueScope Steel, Mr Cornish stated:

These are very, very difficult times for most businesses in Australia today...I do not believe that we have any capacity from next year to take on a tax that would not apply to all our competitors in the global marketplace...The tax would be of such a nature that I am not aware of any other steel maker in the world that is going to bear this carbon tax. Even the Europeans, who are in phase 2 of their emissions trading carbon reduction activities, are not talking about imposing taxes on their steel industry until at least 2012...it is tens and tens of millions of dollars of impact from the first year of operation. Of course, it increases at 1.3 per cent per annum...What it means is that if our business becomes unviable in the global marketplace, then the whole Port Kembla steelworks is threatened.⁶⁹

Hunter Valley

7.78 Hydro Aluminium Kurri Kurri, which is based in the Hunter Valley, explained that the 'smelter is the largest employer in the local area, generating jobs for approximately 2,500 workers in the area, including 500 direct employees.'⁷⁰

7.79 The company is evaluating a:

AU\$4 billion investment in the Kurri smelter to secure its long term viability...would generate approximately an additional 3,000 new long-term jobs in the area, as well as approximately 15,000 jobs during an anticipated three year construction period.⁷¹

67 Mr Rorris, South Coast Labour Council, *Committee Hansard*, 1 April 2009, p. 16.

68 Mr Noel Cornish, Chief Executive, BlueScope Steel, *Committee Hansard*, 1 April 2009, p. 30.

69 Mr Cornish, BlueScope Steel, *Committee Hansard*, 1 April 2009, pp 30-31.

70 Hydro Aluminium Kurri Kurri, *Submission 78*, [p. 2].

71 Hydro Aluminium Kurri Kurri, *Submission 78*, [p. 2].

7.80 However, the company argued that 'the combined impact of the RET and the CPRS costs will effectively destroy the economic viability of the smelter.'⁷²

Collie

7.81 The Collie Chamber of Commerce provided information to the committee regarding what they see as the potentially significant impact of the CPRS on their community:

The potential for job losses, migration of residents to other towns as a result of heavy job losses and a loss of community as a result of this process is significant. Towns like Collie, whose economic viability has been closely linked to a strong commitment by successive Federal and State governments to encourage the use and expansion of coal fired power stations puts the town in a precarious position. If the move to the CPRS places any of our major industry entities in a position where operating becomes unprofitable and they choose to close operations...the residents of Collie, its economy and social fabric will be altered forever.

...

The White Paper proposals for the CPRS do not assist the Collie district in any meaningful way. It places the black coal mining industry in a perilous situation and the flow on effect of this in the community is immeasurable at this stage, but likely to be economically and socially disastrous for the town.⁷³

Gippsland

7.82 The Gippsland Area Consultative Committee argued that:

...Gippsland, and especially the Latrobe Valley, is a region likely to be affected by the proposed CPRS in several contexts. The region's key industries...are both emissions intensive and trade exposed and Gippsland is therefore likely to sustain an impact unlike any other region in Australia.⁷⁴

7.83 International Power provided the following information to the committee regarding the impact of the CPRS on the Latrobe Valley:

As currently designed, the Carbon Pollution Reduction Scheme will adversely impact IPRA Latrobe Valley generators – Hazelwood and Loy Yang B Power Stations. As a major employer in the Latrobe Valley district, the impact on the district will also be adverse...With the commercial viability of the two stations being compromised, the ability to maintain

72 Hydro Aluminium Kurri Kurri, *Submission 78*, [p. 7].

73 Collie Chamber of Commerce and Industry, answer to written question on notice, 22 January 2009 (received 9 February 2009).

74 Gippsland Area Consultative Committee, answer to written question on notice, 18 March 2009 (received 16 April 2009).

current workforces (540 at Hazelwood and 140 at Loy Yang B together with the use of full-time contractors of more than 300) is threatened...In summary, the potential impact of the CPRS, as it is currently designed, on the Latrobe Valley district will be immediate, long lasting, immense and adverse.

...

I acknowledge the Government has allocated support through another transitional scheme (Climate Change Action Fund) of which some funds may be directed to the Latrobe Valley but this fund is dwarfed by the potential impairment which would ensue if the CPRS policy remains unchanged.⁷⁵

7.84 The Gippsland Resources Group expressed a different view to the committee:

In its current format, (5-15 percent reduction in carbon emissions, free carbon permits for major polluters) we do not believe there will be major impacts in the short to medium term arising out of the Federal government's carbon pollution reduction scheme (CPRS).⁷⁶

Committee comment

7.85 The committee considers that the current design of the CPRS is flawed. The scheme as currently designed will lead to significant job losses, particularly in trade exposed industries, and will devastate some regional communities. The committee is concerned about the impact of the CPRS on these individuals and communities, particularly given the impact of the GFC.

Recommendation 11

7.86 The committee recommends that the government conduct a proper assessment of the impact of its proposed CPRS on levels of employment, to assess levels of employment as a 'modelling result' rather than including employment levels as a 'modelling assumption'.

Recommendation 12

7.87 The committee recommends that before legislation to introduce the proposed Carbon Pollution Reduction Scheme is passed, the government conduct a more comprehensive assessment of the impact of the proposed CPRS on individual states and regional economies to ensure the scheme, including

75 International Power, answer to written question on notice, 18 March 2009 (received 1 April 2009).

76 Gippsland Resources Group, answer to written question on notice, 18 March 2009 (received 4 April 2009).

compensation arrangements, is structured so that particular states and regions are not disproportionately and unfairly impacted.

Recommendation 14

7.88 The committee recommends that the government properly inform the community how the scheme will impact them and advise of actions they can take to reduce the cost impost of the scheme.

Chapter 8

Impact of the Carbon Pollution Reduction Scheme on consumers

Introduction

8.1 The committee received evidence that consumers will experience the impact of the Carbon Pollution Reduction Scheme (CPRS) through increased fuel and energy prices. This will in turn lead to increased grocery prices, putting additional pressure on consumers, particularly low income households. Chapter 8 details the evidence received about the expected extent of retail fuel and energy price increases and the impact of that on the community.

Consumer price signal

8.2 Some witnesses argued that for an emissions trading scheme (ETS) to work, consumers need to receive a price signal. For example, the Australian Industry Greenhouse Network argued 'unless the consumer is paying then this scheme is not working. That is the nature of the beast.'¹

8.3 A similar argument was put by BP Australia: 'if we are going to have behaviour change and change in investment, everyone has to see the price signal of carbon, either directly or indirectly, via energy prices.'²

Electricity prices

8.4 The National Generators Forum explained to the committee that the retail cost of electricity is:

...made up effectively of two parts. One is the transport and network costs, which are regulated because that is a natural monopoly. The other part is what I would call the commodity cost. The proportion is approximately fifty-fifty...The commodity area is reflective of the costs of producing power...In terms of the wholesale area, that is the area that will be impacted by a CPRS. That is where the carbon cost will factor into the price of electricity paid by the consumer...There will be a direct impact in terms of carbon costs to the commodity and there will be an indirect impact to the

1 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network, *Committee Hansard*, 2 February 2009, p. 40.

2 Mr Mark Proegler, Director, Environmental Policy, BP Australia, *Committee Hansard*, 17 February 2009, p. 44.

cost of transporting the commodity as a result of changes to the transmission system.³

8.5 The National Generators Forum anticipated that the 'wholesale price of electricity under the current proposed scheme will roughly double by 2020 and will probably triple by about 2025.'⁴

8.6 The committee received evidence from a number of witnesses, including the Australian Academy of Technological Sciences and Engineering and the Australian Council of Social Service that the CPRS will lead to increased retail electricity prices.⁵

8.7 The Energy Supply Association of Australia explained that the increase to the retail cost of electricity 'could be higher than 25 per cent'.⁶

8.8 The Australian Council of Social Service noted that this will impact low income households: 'Low-income consumers...will pay more for electricity and a range of other products. So they will be paying higher prices.'⁷

8.9 The Australian Council of Social Service also noted:

...retail prices for electricity and gas are increasing at rates that make the CPRS impacts look relatively minor. Factors such as input fuel costs, infrastructure and drought are all at work...⁸

8.10 The committee received evidence that higher electricity prices for business will lead to higher prices for other goods and services. The Australian Chamber of Commerce and Industry explained to the committee that 'typically, if businesses have higher energy prices they will pass those on to a final consumer.'⁹

8.11 The Collie Chamber of Commerce and Industry explained to the committee that increased electricity prices will have a significant impact on the community:

3 Mr Carlo Botto, Director, National Generators Forum, *Committee Hansard*, 2 February 2009, p. 9.

4 Dr Harry Schaap, Policy Adviser, National Generators Forum, *Committee Hansard*, 2 February 2009, p. 10.

5 Dr John Burgess, Fellow, Australian Academy of Technological Sciences and Engineering, *Committee Hansard*, 17 February 2009, p. 20; Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service, *Committee Hansard*, 19 February 2009, p. 7.

6 Ms Clare Savage, Acting Chief Executive Officer, Energy Supply Association of Australia, *Committee Hansard*, 2 February 2009, p. 21.

7 Mr Tony Westmore, Senior Policy Officer (Electricity), Australian Council of Social Service (ACOSS), *Committee Hansard*, 19 February 2009, p. 7.

8 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 3.

9 Mr Gregory Evans, Director Economics, Australian Chamber of Commerce and Industry, *Committee Hansard*, 8 December 2008, p. 58.

In a town that has already been identified as being at social and economic disadvantage, the likely implications of significantly higher electricity prices would mean that many families would suffer severely...¹⁰

Household energy consumption

8.12 The Clean Energy Council explained the break up of energy consumption in households to the committee:

Roughly 30 per cent is water heating, then the heating of the house itself is the next 20 to 25 per cent, and then white/browngoods are taking up a larger slice of the rest that is left. Lighting is about six per cent.¹¹

Fuel prices

8.13 BP Australia informed the committee that 'If the permit price is \$25 a tonne then that would be roughly 6c a litre'¹² price increase.

8.14 The Australian Council of Social Service argued that fuel price increases have a disproportionate effect on low income households:

...higher prices for these products flow through to all consumers quickly. They have an immediate and disproportionate effect on households with low incomes...

Low-income households spend relatively less on those products but more as a proportion of their income. With regard to transport and car use, there are often few alternatives for low-income families in rural and regional communities.¹³

8.15 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) made a similar argument:

If fuel prices do rise, those with low incomes will be most vulnerable as spending on fuel represents a greater proportion of their disposable income. In addition, this group tends to have fewer resources to invest in alternative fuels or more efficient vehicles. Regional communities and those located on the urban fringes will also be disproportionately impacted owing to their higher fuel use, higher fuel prices relative to cities and fewer options for reducing motor vehicle travel.¹⁴

10 Collie Chamber of Commerce and Industry, answer to written question on notice, 22 January 2009 (received 9 February 2009).

11 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 7.

12 Mr Proegler, BP Australia, *Committee Hansard*, 17 February 2009, p. 44.

13 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 2.

14 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Submission 25*, p. 8.

8.16 The Sustainable Transport Coalition of Western Australia argued that the fuel price increase resulting from the CPRS:

...would be less than the current tax differential between Australia and most industrial developed economies...Since most developed economies already operate with transport fuel prices in excess of those that would apply with an emissions trading scheme, there is no reason to expect that the Australian economy would be unable to adapt to the effects of such a scheme.¹⁵

8.17 The CSIRO argued that:

...the potential impact of carbon pricing on transport prices is relatively modest...recent increases in the oil price will far exceed anything that we will see even in the next few decades from the impact of the carbon price.¹⁶

8.18 Mr Frank Topham, the Manager of Government Affairs and Media for Caltex Australia, argued that:

...the CPRS does not really [sic] do anything significant to reduce greenhouse gas emissions from fuel despite the increase in cost to consumers, which could ultimately be 10c a litre or more.¹⁷

8.19 Mr Michael Roth, the Executive Manager of the Royal Automobile Club of Queensland (RACQ) argued that the CPRS 'will not reduce driving or greenhouse emissions.'¹⁸ He also argued that:

...any real fuel price increases will still result in little change to total emission levels due to the low demand elasticity of fuel. Demand for fuel is relatively inelastic, and therefore any increase in fuel price only leads to a small decrease in consumption.¹⁹

8.20 Mr Roth provided further explanation about the impact of price on demand for fuel:

Increasing the price of anything will reduce the consumption of it to some extent. Fuel is acknowledged, in the research internationally and the local research, as being quite inelastic, so an increase in fuel price will reduce the demand for fuel, but only very slightly. The short-term elasticity is usually considered as about negative 0.1, and the long-term elasticity is more in the realm of minus 0.3 to minus 0.5...There is a longer-term effect, mainly

15 Sustainable Transport Coalition of Western Australia, *Submission 30*, [p. 7].

16 Mr Paul Graham, Theme Leader, Energy Futures, Commonwealth Scientific and Industrial Research Organisation, *Committee Hansard*, 19 November 2008, p. 13.

17 Mr Frank Topham, Manager, Government Affairs and Media, Caltex Australia, *Committee Hansard*, 20 February 2009, p. 54.

18 Mr Michael Roth, Executive Manager, Royal Automobile Club of Queensland (RACQ), *Committee Hansard*, 20 February 2009, p. 3.

19 Mr Roth, RACQ, *Committee Hansard*, 20 February 2009, p. 3.

through the choices of vehicles that people purchase as they turn over their vehicles.

...

...in the short term, car fuel use declines about 1.5 per cent with any 10 per cent concurrent increase in the price of fuel...²⁰

8.21 Caltex Australia also commented on the inelasticity of demand for fuel, 'Price does little to change motorists' consumption behaviour so the necessary changes will inevitably come from new vehicle technologies'.²¹

8.22 The Australian Council of Social Service argued that fuel prices have an impact on grocery prices, 'higher fuel prices affect the checkout price in increments all along the chain of production.'²² Further, 'rural and regional communities are particularly exposed to price increases for basics—for fuel and food.'²³

8.23 The Sustainable Transport Coalition of Western Australia also argued that:

Higher oil prices will affect grocery prices through the impacts on the cost of production (oil-based fertilisers, in particular) and transport, but the impact does not need to be proportionate to the increase in the cost of oil.

There are many aspects of the food distribution system that could be improved, to reduce the transport intensiveness of what we buy.²⁴

8.24 As discussed in chapter 7, the Chamber of Commerce and Industry of Western Australia argued that increased fuel costs will affect Western Australia, particularly the north west of the state, due to geographic isolation and reliance on long distance freight.²⁵

Fuel tax adjustment

8.25 The committee received some evidence supporting the fuel tax offset, however the majority of organisations that addressed this topic opposed the offset.

8.26 The *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper* (the White Paper) stated:

20 Mr Roth, and Ms Susan Furze, Senior Transport Economist, RACQ, *Committee Hansard*, 20 February 2009, pp 4 and 5.

21 Caltex Australia, *Committee Hansard*, 20 February 2009, p. 50.

22 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 2.

23 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 11.

24 Sustainable Transport Coalition of Western Australia, *Submission* 30, [p. 5].

25 Mr Andrew Canion, Senior Advisor, Industry Policy, Chamber of Commerce and Industry of Western Australia, *Committee Hansard*, 17 November 2008, pp 6-7.

The Government recognises that people have limited flexibility to respond quickly to changes in fuel prices but that, over time, transport choices are influenced by price changes.

To give households and businesses time to adjust to the Scheme, the Government outlined transitional arrangements for fuels in the Green Paper. It will provide 'cent-for-cent' reductions in fuel taxes as a transitional measure. It will also provide transitional assistance to agriculture, fishing and heavy on-road transport industries. Liquefied petroleum gas (LPG), liquefied natural gas (LNG) and compressed natural gas (CNG) will also receive assistance.

The assistance will give households and key industries time to adjust to the Scheme.²⁶

8.27 The RACQ explained that they support the fuel tax offset 'as it will offer relief to those households that cannot access walking, cycling or public transport alternatives and are dependent on driving.'²⁷

8.28 Caltex Australia argued:

It doesn't make sense to impose a carbon price on motorists then immediately offset it with an excise reduction. In fact, the way the excise reduction proposal works will actually reduce the price of petrol for several years so emissions from petrol are likely to increase. That's not an environmentally sound policy.²⁸

8.29 BP Australia also explained that they do not agree with the fuel tax offset because they:

...want to get a carbon price signal throughout the economy. The excise offset effectively delays that for three years...If your goal is to put a carbon price throughout the economy, then do it.²⁹

8.30 The Biofuels Association of Australia also argued against the fuel tax offset:

The main issue we have with the CPRS is the government has essentially exempted fuels. They are saying that petrol will not be affected by a CPRS for three years from 2010, even if the CPRS is brought in in 2010. That means there will be no pricing signals for biofuels until at least 2013 on the petrol side.³⁰

26 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future – White Paper*, December 2008, p. 17.15.

27 Mr Roth, RACQ, *Committee Hansard*, 20 February 2009, p. 3.

28 Caltex Australia, *Committee Hansard*, 20 February 2009, p. 50.

29 Mr Proegler, BP Australia, *Committee Hansard*, 17 February 2009, p. 48.

30 Mr Bruce Harrison, Chief Executive Officer, Biofuels Association of Australia, *Committee Hansard*, 20 February 2009, p. 40.

Treasury modelling

8.31 The committee received evidence that raised concerns about the veracity of the modelling undertaken by the Department of the Treasury with respect to the impact of the CPRS on consumers.

8.32 The Australian Council of Social Service stated:

We are concerned that Treasury in the modelling underestimate some price increases, particularly for non-energy products that have high energy content, including food.

...

We have some concerns about the Treasury modelling, particularly about the non-energy price impacts. I am concerned, for example, that energy prices that begin to increase are going to increase the production costs for food—the storage and sale and retail costs of food. I think we have underestimated those impacts.³¹

Assistance for consumers

8.33 The South Coast Labour Council explained that they strongly support the equity measures in the CPRS which compensate low income earners for increased fuel and energy costs.³²

8.34 Mr Tony Westmore, the Senior Policy Officer (Electricity) for the Australian Council of Social Service, argued that the compensation for households appears to be adequate stating 'we are reasonably satisfied that most people will be accommodated in what looks like a 2.5 per cent increase in benefits and arrangements through the family tax system.'³³

8.35 However, Mr Westmore also raised concerns about the ability of low income households to purchase low emissions technology:

With low-income households, even if Newstart allowance is increased by 2.5 per cent, that is 2.5 per cent of \$225 a week. It is not the kind of thing that is going to empower someone to do very much. It will not even empower someone to be able to afford a high-efficiency light globe, for example. But if the CPRS is robust and if the targets, trajectories, changes and transitions that it engenders are serious enough then we will see some change—and low-income households will buy different kinds of electricity and hopefully will find work in different kinds of jobs.³⁴

31 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, pp 3 and 10.

32 Mr Arthur Rorris, Secretary, South Coast Labour Council, *Committee Hansard*, 1 April 2009, p. 25.

33 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 4.

34 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 13.

8.36 Mr Westmore further argued that low income households will be worse off if climate change is not addressed:

...in the absence of significant work to ameliorate the effects of climate change low-income household people are going to be even worse off. They are the people who have the least capacity to cope to adapt, to move, to change, and we have come to believe that climate change is coming and it is coming reasonably quickly.³⁵

8.37 The National Institute of Economic and Industry Research put forward an alternative perspective, arguing 'that the assistance to consumers should be strongly related to their participation in energy efficiency improvements'.³⁶

Overall impact of the CPRS on consumers

8.38 The committee is of the view that the evidence outlined above clearly shows that the CPRS will lead to increased fuel and energy prices for Australian consumers. It is also clear that increased fuel and energy prices will lead to increased prices in other goods and services.

8.39 Mr Leon Bradley, from the Western Graingrowers Committee and the Pastoralists and Graziers Association of Western Australia argued: 'I do not think there is any question that if you impose this scheme you will lower living standards for every Australian...'

Committee comment

8.40 In considering the impact of the CPRS on consumers, the committee agrees with the view expressed by Mr David Pearce, Executive Director of the Centre for International Economics who stated:

...you may be able to compensate the household in the first round increase in prices, but households are also workers, and they are also shareholders, mostly through superannuation funds and so on. So the idea that you can compensate the household for the cost of the scheme is, I think, misleading...³⁷

8.41 The committee is particularly concerned about the impact of higher fuel and energy prices on low income households. In addition, the committee is concerned that increased fuel and energy prices will lead to increases in other goods and services, including grocery prices, particularly in light of the evidence received that increased fuel prices will do little to reduce emissions.

35 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 14.

36 Dr Ian Manning, Deputy Executive Director, National Institute of Economic and Industry Research, *Committee Hansard*, 17 February 2009, p. 25.

37 Mr David Pearce, Executive Director, Centre for International Economics, *Committee Hansard*, 2 April 2009, p. 29.

Chapter 9

Complementary Measures

Introduction

9.1 The evidence received by the committee strongly indicated that the Carbon Pollution Reduction Scheme (CPRS) as currently proposed will not provide the incentives necessary to adequately reduce Australian emissions. Chapter 9 explores the arguments presented to the committee regarding the need for additional measures to reduce Australian emissions as well as issues regarding energy efficiency and lower emissions energy and fuel.

9.2 Please note the terms of reference of the committee include 'g. the role of alternative fuels to petroleum and diesel'. The section addressing alternative fuel contained in this chapter is restricted to the evidence received by the committee related to the CPRS. The committee will further explore the issues associated with alternative fuels when addressing term of reference 'g'.

Need for complementary measures

9.3 The committee received substantial evidence of the need for complementary measures because the CPRS will not provide the incentive required to generate sufficient investment in the low emissions technology required to reduce emissions. Such investment was also seen as an opportunity to expand Australia's economy. For example, the Australian Coal Association stated:

An emissions trading scheme alone will not accelerate the early deployment of low-emission technologies, and complementary measures to support investment in R&D are an essential part of a comprehensive and effective climate change response...R&D...also represents an important investment in sustaining the value of national assets.¹

9.4 The Construction, Forestry, Mining and Energy Union expressed a similar view:

We think that the emissions trading scheme will not of itself set up Australia for the long term.

There is a need for complementary measures around renewable energy, around energy efficiency and around CCS carbon capture and storage.²

1 Mr Burt Beasley, Acting Executive Director, Australian Coal Association (ACA), *Committee Hansard*, 2 February 2009, p. 59.

2 Mr Peter Colley, National Research Director, Mining and Energy Division, Construction, Forestry, Mining and Energy Union (CFMEU), *Committee Hansard*, 19 November 2008, p. 111.

9.5 The Clean Energy Council also argued that the CPRS 'will not do it alone. There is a need for a suite of effective and efficient complementary measures.'³

9.6 Environment Business Australia argued that:

...what is urgently required is a government enabling framework so that policies are put in place to create a friendly marketplace for the next generation of technology and infrastructure, and drive that into the marketplace.⁴

9.7 Western Power argued that 'if we want to get results quickly, we have to have complementary measures and activities—actions—to achieve that.'⁵

Energy efficiency

9.8 Mr Matthew Warren, Chief Executive Officer of the Clean Energy Council highlighted the importance of energy efficiency measures in reducing Australia's emissions. Mr Warren informed the committee that the 'International Energy Agency predicts that up to 73 per cent of global emissions abatement will be derived from energy efficiency measures.'⁶

9.9 Dr Peter Brain, Executive Director of the National Institute of Economic and Industry Research argued that:

The Treasury modelling seems to, at least in part, view energy efficiency as like manna from heaven being absorbed into the capital stock. But for the high-emission industries, the reality is that, to improve their energy efficiency by those means, they have to pull out the vintage of the capital that is embodied in that. It is just like a truck: you have to throw away a truck, put in a new truck, and it goes up the line with that sort of idea. So, in terms of a cap and trade system, the idea of simply setting a cap and letting the price put in the energy efficiency requirement in a given period is absurd.

There are inefficiencies there and that is why we support some price mechanism, but the heavy-lifting fact is that, to dramatically increase your underlying core energy efficiency, you have to redirect an enormous amount of investment quickly to replacement, rather than capacity expansion, which would be very costly. So the idea simply of setting a cap and letting the price fix it is just absurd. What would happen in that case is that, because industry is largely locked in in any given period to its

3 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 2.

4 Ms Fiona Wain, Chief Executive Officer, Environment Business Australia, *Committee Hansard*, 19 February 2009, p. 17.

5 Mr Phil Southwell, General Manager, Strategy and Corporate Affairs, Western Power, *Committee Hansard*, 17 November 2008, p. 26.

6 Mr Warren, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 2.

accumulated investment over the last 20 or 30 years, you would get emissions down, but that would basically stem from businesses closing down their operations and selling their permits.⁷

9.10 Dr Brain also argued that only a relatively small percentage of households have the capacity to respond to a carbon price and invest in more energy efficient technology.⁸ As discussed in chapter 8, the Australian Council of Social Service also pointed out the difficulties for low income households investing in low emissions technologies.⁹

9.11 The Australian Academy of Technological Sciences and Engineering argued that the types of incentives required to encourage small business to invest in energy efficient technology are 'an accelerated investment allowance...and accelerated or even free depreciation'.¹⁰

9.12 Environment Business Australia argued that energy efficiency could be improved by upgrading the standards for appliances and 'a national trade-in program for appliances'.¹¹

9.13 As discussed in chapter 8, the Royal Automobile Club of Queensland (RACQ) argued that the CPRS 'will not reduce driving or greenhouse emissions'.¹² The RACQ argued that there are measures that, if adopted, would be effective in reducing emissions from vehicles. These measures include eco-drive programs, changes to road taxes and reducing congestion.¹³ It was argued that eco-driving programs can 'reduce vehicle emissions by an average of 10 per cent'.¹⁴ Another suggestion was:

Initiatives such as purchase rebates for very fuel efficient cars have the potential to improve the average fuel efficiency of our vehicle fleet over a number of years. Government modelling has shown that improvements in

7 Dr Peter Brain, Executive Director, National Institute of Economic and Industry Research, *Committee Hansard*, 17 February 2009, p. 23.

8 Dr Brain, National Institute of Economic and Industry Research, *Committee Hansard*, 17 February 2009, p. 24.

9 Mr Tony Westmore, Australian Council of Social Service (ACOSS), *Committee Hansard*, 19 February 2009, p. 13.

10 Mr Peter Laver, Vice President and Fellow, Australian Academy of Technological Sciences and Engineering, *Committee Hansard*, 17 February 2009, p. 14.

11 Ms Wain, Environment Business Australia, *Committee Hansard*, 19 February 2009, pp 23-24.

12 Mr Michael Roth, Executive Manager, Public Policy, Royal Automobile Club of Queensland (RACQ), *Committee Hansard*, 20 February 2009, p. 3.

13 Mr Roth, RACQ, *Committee Hansard*, 20 February 2009, pp 3-4.

14 Mr Roth, RACQ, *Committee Hansard*, 20 February 2009, p. 3.

vehicle fuel efficiency will be the main means to reduce emissions from road transport.¹⁵

9.14 Qantas and Virgin Blue Airlines argued they have achieved significant improvements in fuel efficiency and that improving traffic management and investment in new aircraft are the most effective ways of reducing emissions from the aviation industry. Virgin Blue argued:

Rather than tax the industry when the economy can least afford it, significant carbon abatement can be achieved in the short term by improved traffic management procedures, including flexible flight tracks, improved air traffic control sequencing and introducing continuous descent approaches. This should be the immediate priority.¹⁶

9.15 In terms of fleet renewal, Qantas pointed out:

...we need to be a healthy industry to facilitate new aircraft. If we cannot afford to buy new aircraft...the benefits to the environment will not accrue. A financially healthy industry is an environmentally healthy industry.¹⁷

Carbon capture and storage

9.16 As discussed in chapter 5, the committee heard evidence regarding the importance of improving emissions from coal in addressing climate change, as coal is central both to Australia's energy supply and to its economy.

9.17 The Minerals Council of Australia argued:

...there is no solution to this issue without a clean coal solution. We have to put all of our efforts into developing the technology, in conjunction with the rest of the world...That is the sort of technology that has got to be developed, to be able to be retrofitted on old power stations and installed in new power stations, if we are to make a dent in this issue. We are not going to do it any other way. It has to be a coal solution.¹⁸

9.18 The Australian Workers' Union argued:

...Carbon Capture and Storage (CCS) technologies represent potentially the single most important abatement measure to secure safely future emissions without stranding enormous reserves of coal reserves and assets or the EITEs which rely upon it.¹⁹

15 Mr Roth, RACQ, *Committee Hansard*, 20 February 2009, p. 3.

16 Mr Simon Thorpe, General Manager, Safety Systems, Virgin Blue Airlines, *Committee Hansard*, 20 February 2009, p. 13.

17 Mr Peter Broschovsky, Group General Manager, Environment and Fuel Conservation, Qantas Airlines, *Committee Hansard*, 19 November 2008, p. 45.

18 Mr Peter Coates, Chairman, Minerals Council of Australia, *Committee Hansard*, 8 December 2008, p. 12.

19 The Australian Workers' Union, *Submission 73*, [p. 9].

9.19 Mr Burt Beasley, Acting Executive Director of the Australian Coal Association, argued:

The deployment of carbon capture and storage technologies is the only principal means of cutting emissions from coal, lignite, gas, diesel and other fossil fuel based power generation. It also has applications in other industrial processes, such as iron and steel, cement and metal manufacturing. The role of these technologies is particularly significant at a global level. The International Energy Agency projects that global demand for coal, driven principally by China and India, will grow by two per cent a year to 2030...It is really important therefore that we have available for them the technology to capture and store the CO₂ that they generate.²⁰

9.20 Mr Beasley explained that carbon capture and storage (CCS) technologies are yet to be proven on a commercial scale and the costs are not known at this stage.²¹ Mr Beasley informed the committee that commercial scale operations are likely to take a further 10 years and argued that:

...the contribution of funds to those early demonstrations is vital...When they reach the point of needing funding commitment, certainly the dollars in some of those projects can be quite large...We would certainly like governments, state and federal, to commit funding to the large-scale demonstrations.²²

9.21 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) also explained that 'In terms of the capture technologies, the issue there is the need to demonstrate that on a large scale' and raised the issue of the need for funding.²³

9.22 Mr Peter Colley, from the Construction, Forestry, Mining and Energy Union, argued that complementary measures are needed for carbon capture and storage technology as 'the emissions trading scheme will not be sufficient to bring on carbon capture and storage at the required rate.'²⁴ Mr Colley further argued, 'We want to see a commitment by the developed world, including Australia, to bring on carbon capture and storage as a commercial scale technology by 2020.'²⁵

20 Mr Beasley, ACA, *Committee Hansard*, 2 February 2009, pp 58-59.

21 Mr Beasley, ACA, *Committee Hansard*, 2 February 2009, p. 64.

22 Mr Beasley, ACA, *Committee Hansard*, 2 February 2009, p. 69.

23 Mr Paul Graham, Theme Leader, Energy Futures, Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Committee Hansard*, 19 November 2008, p. 22.

24 Mr Colley, CFMEU, *Committee Hansard*, 19 November 2008, p. 111.

25 Mr Colley, CFMEU, *Committee Hansard*, 19 November 2008, p. 111.

9.23 The Australian Energy Company argued that: 'Perversely, the CPRS design has created a major barrier to the cost effective implementation of the Government's policies on low emissions coal and carbon capture and storage development.'²⁶

9.24 In addition to the industry investment in research and development, the committee heard evidence of companies installing clean coal technology and ensuring new plants are clean coal ready. For example, Chevron Australia informed the committee that:

...an integral component of the Gorgon project is to take the naturally occurring carbon dioxide that is contained in the reservoir gas. That carbon dioxide is extracted during gas processing and traditionally vented to the atmosphere, and the Gorgon project is proposing to take that reservoir carbon dioxide and safely inject it below Barrow Island—geologically store it below Barrow Island. When the project is up and running, it will potentially be the world's largest greenhouse gas storage project, so that is an integral component of the Gorgon project in Australia.²⁷

9.25 Griffin Energy reported, regarding their new coal fired plants:

...we are making those plants carbon capture ready, as defined by the International Energy Agency. So, coupled with our research as to locations of potential sites for geosequestration, we are in fact designing the plants to be are [sic] capable of it. Once the technologies are commercially viable, then we can marry the two and actually move forward.²⁸

Alternative energy

9.26 The committee heard evidence that Australia has excellent resources to develop alternative energy, however most of these are as yet unable to provide a consistent, reliable alternative energy source. The majority of evidence received addressing alternate energy sources included renewables such as wind, wave and geothermal; and nuclear. The report will explore the issues raised regarding nuclear energy and the issues faced by the renewable energy industry, particularly in regards to newer technologies such as wave power.

Nuclear energy

9.27 Several witnesses expressed the view that Australia should consider nuclear energy when looking at options to substantially reduce emissions. The committee received minimal evidence objecting to the use of nuclear power.

26 Australian Energy Company Limited, answer to written question on notice, 18 March 2009 (received 1 April 2009).

27 Mr John Torkington, Adviser on Climate Change Policy, Chevron Australia, *Committee Hansard*, 18 February 2009, p. 27.

28 Mr Wayne Trumble, Executive General Manager, Power Generation, Griffin Energy, *Committee Hansard*, 18 February 2009, pp 6-7.

9.28 Mr Michael Angwin, Executive Director of the Australian Uranium Association explained:

...the nuclear fuel cycle—and that takes into account from the exploration and mining of the uranium through to the decommissioning of plant and the management of waste—produces about the same amount of greenhouse gas emissions as hydroelectricity and wind power, also measured over the cycle, and what we find surprising to many people is that all of those create fewer greenhouse gas emissions than solar and, obviously, much less than both coal and gas using existing technology. So the nuclear fuel cycle, for which our industry is a major supplier, is a key source of low-emissions clean energy for the world.²⁹

9.29 Similar to the issues raised about the gas industry, the Australian Uranium Association made the point that uranium exports are part of Australia's contribution to global emissions reductions, as although the industry causes some emissions locally in the mining, milling and transport of uranium, it reduces global emissions when used as an energy source.³⁰ Mr Angwin stated, 'We know that expanding our exports will enable Australia to pull its weight in providing relief to the climate globally.'³¹

9.30 Mr Paul Howes, National Secretary of the Australian Workers' Union, argued:

...it is important when we are addressing the energy security of the nation that we put all options on the table. We have one-third of the world's uranium here. If we look around the world at the expansion that is going on in China, South Africa, Sweden and France to make nuclear power part of their climate change solution, I think it should be at least investigated...To me it is something that needs to be debated and thoroughly investigated. I have never changed my position on that...³²

9.31 A similar argument was put by the Australian Chamber of Commerce and Industry:

We have the fuel source available in terms of uranium oxide. What we are saying principally at this stage is that it should not be arbitrarily excluded from the different fuel choices that we might have and it is obviously no coincidence that those countries that are more able to achieve their greenhouse gas abatement targets are those countries which have a fairly significant electricity generating portion flowing from nuclear energy.³³

29 Mr Michael Angwin, Executive Director, Australian Uranium Association, *Committee Hansard*, 8 December 2008, p. 17.

30 Mr Angwin, Australian Uranium Association, *Committee Hansard*, 8 December 2008, p. 24.

31 Mr Angwin, Australian Uranium Association, *Committee Hansard*, 8 December 2008, p. 17.

32 Mr Paul Howes, National Secretary, Australian Workers' Union, *Committee Hansard*, 2 February 2009, pp 73-74.

33 Mr Gregory Evans, Director Economics, Australian Chamber of Commerce and Industry, *Committee Hansard*, 8 December 2008, p. 61.

9.32 Mr Bernard Wheelihan, Chair of Pacific Hydro also stated, 'I am strongly in favour of it [nuclear]'.³⁴

9.33 An alternative view was put to the committee by the Australian Conservation Foundation:

The Australian Conservation Foundation does not support nuclear power and it does not support uranium mining. We believe we are much better off investing the substantial resources that go into nuclear energy internationally into renewable energies.³⁵

9.34 The Clean Energy Council explained that:

Nuclear energy is a proven technology, with known costs, so you would have to say that it is the wicketkeeper technology in this process and that, if all else fails, then you have that in your back pocket, and different economies have different social and political challenges in employing that, but it is available.³⁶

9.35 Professor Anthony Owen, Professor of Energy Economics at the Curtin University of Technology, raised the issue of the economic viability of nuclear power:

The economics just do not add up - that huge up-front cost waiting so long for the revenue stream...if smaller scale nuclear technology becomes available...then it might be a viable technology.³⁷

Renewable energy

9.36 The Western Australian Sustainable Energy Association, Environment Business Australia and the Clean Energy Council argued that Australia has significant renewable energy resources.³⁸

9.37 It should be noted however, that renewable energy does not currently provide reliable large scale energy. As explained in chapter 2, renewable energy does not currently provide effective baseload power, and as set out in chapter 6 significant additional investment is required to connect renewable energy to the grid.

34 Mr Bernard Wheelihan, Chair, Pacific Hydro, *Committee Hansard*, 2 April 2009, p. 47.

35 Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation, *Committee Hansard*, 2 February 2009, p. 88.

36 Mr Warren, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 6.

37 Professor Anthony Owen, Energy Economics, Curtin University of Technology, *Committee Hansard*, 17 November 2008, p. 48.

38 Dr Raymond Wills, Chief Executive Officer, Western Australian Sustainable Energy Association, *Committee Hansard*, 17 November 2008, p. 52; Ms Wain, Environment Business Australia, *Committee Hansard*, 19 February 2009, p. 18; Mr Warren, Clean Energy Council, *Committee Hansard*, 17 February 2009, p. 2.

9.38 Mr Phil Southwell, General Manager, Strategy and Corporate Affairs of Western Power argued that the CPRS will have minimal impact on the use of renewable energy in the short term:

My expectation is that in the early days it will not have a major impact on the use of renewables...We expect that something like a focus on targeting renewables is required to give the impact in the early days...³⁹

9.39 The committee heard evidence from Dr Michael Ottaviano from Carnegie Corporation, 'Australia's leading wave technology developer'.⁴⁰ Dr Ottaviano explained that 'because the Southern Hemisphere is not landlocked the wave resource is constant throughout the whole year and always there...it is a genuine baseload resource.'⁴¹ Dr Ottaviano argued that Australia is behind 'the rest of the world in terms of incentives specifically for marine energy and wave energy'⁴² and:

...it is very difficult for renewable energy companies to develop projects in Australia and to finance them in Australia. An ETS or a carbon pollution reduction scheme will, however, favour or skew towards the cheapest form of proven renewable technologies. There is no doubt about that. What that means in reality is that we will see wind being taken up under that sort of program but it will not help new renewable technologies.

...

I think the government has a role to play but it should only be a limited or one-off role to help new technologies enter the market.⁴³

9.40 Mackay Sugar explained to the committee that:

...to counter falling sugar prices over time, Mackay Sugar has embarked on plans to install a major co-generation plant at Racecourse Mill, followed by a food grade ethanol plant. The co-generation plant will be 36 megawatts in capacity and will feed about 28 megawatts into the Mackay grid...⁴⁴

9.41 Mackay Sugar explained the overall impact of the CPRS on their business:

...our modelling has shown that the scheme will have a small negative impact on current operations. However, with a strategic plan to enter the renewable energy and ethanol markets, Mackay Sugar views the CPRS as a positive policy which will enhance both projects. But, more importantly for cane farmers in Mackay, the 20 per cent renewable scheme offers them a

39 Mr Southwell, Western Power, *Committee Hansard*, 17 November 2008, p. 25.

40 Dr Michael Ottaviano, Managing Director, Carnegie Corporation, *Committee Hansard*, 17 November 2008, p. 63.

41 Dr Ottaviano, Carnegie Corporation, *Committee Hansard*, 17 November 2008, p. 63.

42 Dr Ottaviano, Carnegie Corporation, *Committee Hansard*, 17 November 2008, p. 65.

43 Dr Ottaviano, Carnegie Corporation, *Committee Hansard*, 17 November 2008, pp 65 and 69.

44 Mr John Hodgson, Projects Manager, Mackay Sugar, *Committee Hansard*, 6 April 2009, p. 17.

more immediate and tangible scheme for the transition to low-emission renewable energy in Mackay.⁴⁵

Alternative energy sources

9.42 As discussed in chapter 3, the committee received evidence from Envirogen, a power generation business that generates power from waste coal gas, therefore generating power 'through providing emissions abatement.'⁴⁶ Representatives of Envirogen explained that while the industry currently receives funding through state based arrangements that promote renewable energy, these arrangements:

...are due to expire in 2012 and with them goes any incentive for mines to use productively what would otherwise be a waste product. In other words, mines will seek to abate by flaring gas, which we believe and have demonstrated we can use for power generation. In short, there are both negative environmental and economic impacts from the omission of waste coal gas from the CPRS or indeed from the renewable energy target. The result of that will be that our industry will have no future.⁴⁷

9.43 Envirogen proposed that waste coal gas be included in the proposed expanded Renewable Energy Target.

Alternative fuel

Biofuels

9.44 The committee received evidence stating that there needs to be further research into second generation biofuels given that the currently produced biofuels are of minimal benefit.⁴⁸

9.45 Mr Bruce Harrison, Chief Executive Officer of the Biofuels Association of Australia argued that:

We have been very keen for the CPRS to be introduced so that we can see the pricing mechanism brought into play so that we can get a revaluing of the biofuels and we can get some investment in the industry. However, the interaction of the CPRS with the current policies that are in place we believe will have a negative impact on the biofuels industry over the next few years.⁴⁹

45 Mr Hodgson, Mackay Sugar, *Committee Hansard*, 6 April 2009, p. 17.

46 Dr David Hamill, Chairman, Envirogen, *Committee Hansard*, 1 April 2009, p. 39.

47 Dr Hamill, Envirogen, *Committee Hansard*, 1 April 2009, pp 39-40.

48 Mr Roth, RACQ, *Committee Hansard*, 20 February 2009; Mr Mark Proegler, Director, Environment Policy, BP Australia, *Committee Hansard*, 17 February 2009, p. 49.

49 Mr Bruce Harrison, Chief Executive Officer, Biofuels Association of Australia, *Committee Hansard*, 20 February 2009, p. 38.

9.46 Mr Harrison added that the fuel tax offset provided under the CPRS which effectively exempts fuels 'is concerning us because that stops the investment money coming into the industry.'⁵⁰

9.47 Qantas and Virgin Blue Airlines made representations to the committee regarding the importance of biofuels. Qantas argued for the need for complementary measures to accelerate the commercialisation of alternative fuels, stating 'There is much the government can do in terms of accelerating the deployment and commercialisation of those types of fuels.'⁵¹

9.48 Virgin Blue Airlines argued that:

...biofuels have the potential to not only substantially reduce greenhouse gas emissions but also contribute to diversification of supply and fuel security. This will require significant work to establish a sustainable supply chain. This does, however, represent a significant opportunity for economic development in Australia.⁵²

9.49 The Australian Council of Social Service raised concerns about the impact of the ethanol industry on the global food supply and land clearing.⁵³ The Pastoralists and Graziers Association of Western Australia also raised concerns about measures to assist the biofuels industry stating, 'You are basically offering a subsidy to farmers to not grow food.'⁵⁴

Coal to liquids

9.50 The committee heard evidence from Mr Thyl Kint, Chief Executive Officer of Spitfire Oil, a company 'working on technology to produce oil, coal to liquids, from [a] lignite deposit.'⁵⁵ This process 'will emit, compared to the conventional, about a quarter of the greenhouse gases associated with preparation of the fuel.'⁵⁶

9.51 Mr Kint explained that 'If we can get this technology to work, it will enable a country like Australia to generate very large amounts of hydrocarbon.'⁵⁷ Thus, an important technology when considering Australia's fuel security.

50 Mr Harrison, Biofuels Association of Australia, *Committee Hansard*, 20 February 2009, p. 40.

51 Mr Broschofsky, Qantas Airways, *Committee Hansard*, 19 November 2008, p. 45.

52 Mr Thorpe, Virgin Blue Airlines, *Committee Hansard*, 20 February 2009, p. 13.

53 Mr Westmore, ACOSS, *Committee Hansard*, 19 February 2009, p. 4.

54 Mr Sheldon Mumby, Policy Director, Pastoralists and Graziers Association of Western Australia, *Committee Hansard*, 18 February 2009, p. 39.

55 Mr Thyl Kint, Chief Executive Officer, Spitfire Oil, *Committee Hansard*, 18 February 2009, p. 31.

56 Mr Kint, Spitfire Oil, *Committee Hansard*, 18 February 2009, p. 32.

57 Mr Kint, Spitfire Oil, *Committee Hansard*, 18 February 2009, p. 32.

9.52 Mr Kint argued that the introduction of the CPRS, rather than encouraging this lower emissions technology, would jeopardise its further development in Australia. The increased costs imposed as a result of the price on carbon emissions in Australia, albeit lower emissions, not faced by overseas competitors, even those with much higher emissions, makes it much harder for products derived from this low emissions technology to compete. Even by emitting only a quarter of the emissions compared to conventional processes under this technology, Spitfire Oil will face an additional cost under the CPRS not faced by relevant overseas competitors.⁵⁸ Mr Kint proposed that consideration should be given:

...for start-ups like this where you have got a new technology in an important sector of the economy, there could be an exemption at least during the start-up phase until it reached full commercial operation.⁵⁹

Committee comment

9.53 The committee notes the evidence received indicating that the CPRS as currently proposed will not in itself encourage the development or adoption of low emission technologies.

9.54 The committee agrees that by expanding the exploration, mining and exportation of uranium, Australia can make a significant contribution to global reductions in greenhouse gas emissions.

9.55 The committee considers that the use of nuclear energy in Australia ought to be properly explored by government, both as an effective means to reduce domestic emissions and with the view to help ensure Australia's energy security into the future.

9.56 The committee notes the significant disincentive created by the CPRS in relation to the development of low emissions technology in Australia. Imposing costs on domestic lower emissions technologies not faced by overseas competitors will, in the absence of an appropriate global agreement, put the development of new low emissions technology in Australia at risk. Imposing a cost on domestic carbon emissions, even where those emissions are at world's best practice levels, will make products derived from those lower emissions processes less competitive than equivalent overseas products produced using more conventional and polluting processes. The case presented by Spitfire Oil was but one such example.

9.57 The committee is of the view that businesses such as Envirogen and Spitfire Oil, that are delivering or developing emission abatement or reduced emissions technologies, should be encouraged.

58 Mr Kint, Spitfire Oil, *Committee Hansard*, 18 February 2009, pp 31-32.

59 Mr Kint, Spitfire Oil, *Committee Hansard*, 18 February 2009, p. 35.

9.58 The committee views carbon capture and storage as an important technology in reducing Australian and global emissions and encourages further support to develop this technology to a commercial stage.

9.59 The committee is of the view that there needs to be further research and development of second generation biofuels.

Recommendation 15

9.60 The committee recommends that the development of emission abatement or reduced emissions technologies be encouraged and facilitated, not constrained as they will be under the proposed CPRS. Consideration should be given by government to providing tangible recognition to businesses operating at world best practice levels.

Recommendation 16

9.61 The committee recommends that incentives be provided to encourage research and development of second generation biofuels.

Recommendation 17

9.62 The committee recommends that the Commonwealth and state governments remove restrictions on the mining and exporting of uranium.

Recommendation 18

9.63 The committee recommends that the Commonwealth Government explore the feasibility, advantages and disadvantages of producing nuclear power in Australia, as a means of reducing domestic emissions and providing energy security for Australia into the future.



Senator Mathias Cormann
Chair

Dissenting Report by Government Senators

1.1 The Senate Select Committee on Fuel and Energy was established in part to scrutinise the Government's plan to introduce an emissions trading scheme to reduce Australia's carbon pollution.

1.2 Scrutiny of important policy is a crucial job for the Australian Senate. But the majority report provides an unbalanced assessment of the Australian Government's climate change policy.

1.3 It presents a partisan and unrepresentative assessment of the views of the Australian community about the need to act on climate change and the Government's Carbon Pollution Reduction Scheme.

1.4 The Australian community strongly supports taking decisive action on climate change. While we can always do more, the Government's climate change strategy provides a strong foundation for tackling climate change, reducing Australia's carbon pollution, protecting jobs and the international competitiveness of Australian industries.

After a decade of climate change policy design work, prolonging the debate now is a recipe for never acting on climate change and will deny business the certainty it needs.

1.5 The Carbon Pollution Reduction Scheme is the culmination of a long policy process going back to a series of four discussion papers on the design of an Australian emissions trading scheme issued by the Howard Government's Australian Greenhouse Office in 1999 and 2000.

1.6 Since then, emissions trading policy was advanced by the states' National Emissions Trading Taskforce; the Howard Government's Prime Ministerial Task Group on Emissions Trading; the Carbon Pollution Reduction Scheme Green Paper; the Garnaut Climate Change Review; the Carbon Pollution Reduction Scheme White Paper; exposure draft legislation; and a series of Senate inquiries.

1.7 The CPRS has been carefully designed and subjected to extensive scrutiny. Calls for further analysis now are only creating greater uncertainty for Australian businesses.

The cost to the Australian economy and households of reducing emissions is manageable

1.8 Acting on climate change will impose costs on the economy but also provides opportunities for green jobs in sectors such as renewable energy.

1.9 In October 2008, the Government released modelling of the costs and opportunities from reducing Australia's greenhouse gas emissions. The Treasury

modelling report, Australia's Low Pollution Future: The Economics of Climate Change Mitigation, provided compelling evidence that early action to tackle climate change will sustain growth, create new jobs and protect the Australian economy into the future.

1.10 The Treasury report had three key conclusions:

- The Australian economy will continue to grow strongly as carbon emissions are reduced.
- The earlier Australia acts, the cheaper the cost of action. The longer we delay, the more damage we risk to the Australian economy.
- Many of Australia's key industries will become more, not less, competitive.

1.11 The Treasury modelling also found that average annual GNP growth will only be one tenth of one per cent less than it would be in a world without action to tackle climate change. It showed that taking early action will allow an orderly and gradual adjustment to a low-carbon economy. It also showed that delaying action, and then playing catch up, would deliver a sharper shock to the economy in the years ahead.

1.12 It showed that economies that act early face lower long-term costs and that putting in place the Carbon Pollution Reduction Scheme will allow Australia to capitalise on emerging opportunities and gain a competitive advantage.

1.13 The Treasury modelling report contains the most complex, comprehensive and rigorous analysis of its kind ever undertaken in Australia. It is also highly transparent. The Treasury consulted with a very wide range of stakeholders and worked with some of Australia's top modelling experts. Extensive documentation supporting the modelling is available on the Treasury website.

Alternative models do not meet Australia's needs

1.14 The Committee heard from a range of stakeholders who argued that alternative policy models such as a carbon tax, a consumption approach, or a variation on the cap and trade model should be investigated.

1.15 Emissions trading schemes present clear benefits. They allow us to have certainty about the quantity of emissions and is consistent with the emerging international consensus. Carbon taxes are not necessarily simpler to administer or easier to enforce. If Australia adopted a consumption approach, it would risk retaliatory trade measures from other economies and could potentially put us in breach of our WTO obligations. We can draw on lessons from emissions trading design from existing schemes like the European Union Emissions Trading Scheme.

1.16 At the last election, both major parties committed to an emissions trading scheme, because emissions trading is the right policy for Australia to reduce its greenhouse gas emissions.

Australia is far from alone in tackling climate change

1.17 Reducing Australia's emissions through the CPRS means Australia will join other developed nations in the fight to tackle climate change. Emissions trading is already underway in 27 European countries. President Obama is committed to introduce an emissions trading scheme in the United States. The Government's proposal to reduce Australia's emissions by 25 per cent on 2000 levels by 2020 in the context of a strong global commitment is a very important inducement to developing and other advanced economies to take strong action on climate change.

1.18 Demonstrating that we can make real cuts to Australia's carbon pollution while continuing to grow our economy will encourage other countries to join the global fight.

The CPRS has a wide range of features to protect today's jobs

1.19 By providing extensive support for emissions-intensive trade-exposed industries, firms that compete internationally will be protected from carbon leakage and helped through the transition to a low-carbon economy. The Electricity Sector Adjustment Scheme will secure the investment environment in the electricity sector. The Climate Change Action Fund will provide a wide range of support for businesses to help them adjust to a low-carbon economy.

De-carbonising the Australian economy is a multi-decade challenge that needs policy certainty

1.20 Professor Warwick McKibbin noted:

"There are a number of features of a carbon abatement scheme that are important. One is that we have very clear long-term price signals so that innovators, investors and others can see where they are getting the highest return for their various investments over time." (p.FUEL ENE 64, 19 February 2009)

1.21 The Carbon Pollution Reduction Scheme delivers this important feature.

1.22 Australia's ambitious medium-term emissions reduction targets – and the means to get us there – need to be locked in now to get the right investments in place.

The Government's new package addresses community and business concerns

1.23 On 4 May 2009, the Government announced a range of new measures for the Carbon Pollution Reduction Scheme. The package of new measures included a delay in the start date of the Carbon Pollution Reduction Scheme of one year, to manage the impacts of the global recession.

1.24 In addition:

- A one year fixed price period will be introduced. Permits will cost \$10 per tonne of carbon in 2011-12, with the transition to full market trading from 1 July 2012.

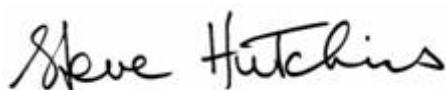
- A new Global Recession Buffer will be provided as part of the assistance package for emissions intensive trade exposed industries. Industries eligible for 60 per cent assistance will receive a 10 per cent buffer, while industries eligible for 90 per cent assistance will receive a 5 per cent buffer.
- Eligible businesses will receive funding to undertake energy efficiency measures from 1 July 2009.
- A commitment to reduce carbon pollution by 25 per cent of 2000 levels by 2020 if the world agrees to an ambitious global deal to stabilise levels of CO₂ equivalent in the atmosphere at 450 parts per million or less by 2050. (Up to five percentage points of the 25 per cent target could be achieved through Government purchase of international credits, such as avoided deforestation credits, using CPRS revenue no earlier than 2015.)
- The establishment of an Australian Carbon Trust to allow households to do their bit by investing directly in reducing Australia's emissions and to drive energy efficiency in buildings.

1.25 This package demonstrates that the Government has paid careful attention the views of the Australian community (and the Parliament). It has received very strong endorsements from leading business groups (including the Australian Industry Group and the Business Council of Australia) and leading environmental and community groups (including the Australian Conservation Foundation, the World Wide Fund for Nature, the Climate Institute, the Australian Council of Trade Unions and the Australian Council of Social Service).

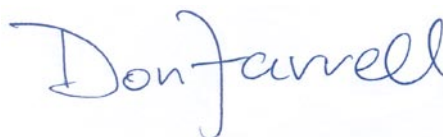
Recommendations

Dissenting senators recommend:

1. **Given that both major parties support an emissions trading scheme for Australia, the Carbon Pollution Reduction Scheme should pass this year.**
2. **The Government should pursue a wide range of complementary measures to set Australia up for a low-carbon future and create green jobs.**



Senator Steve Hutchins



Senator Don Farrell



Senator Anne McEwen

Appendix 1

Terms of Reference

That a select committee, to be known as the Select Committee on Fuel and Energy, be established to inquire into and report by 21 October 2009 on:

- a. the impact of higher petroleum, diesel and gas prices on:
 - i. families,
 - ii. small business,
 - iii. rural and regional Australia,
 - iv. grocery prices, and
 - v. key industries, including but not limited to tourism and transport;
- b. the role and activities of the Petrol Commissioner, including whether the Petrol Commissioner reduces the price of petroleum;
- c. the operation of the domestic petroleum, diesel and gas markets, including the fostering of maximum competition and provision of consumer information;
- d. the impact of an emissions trading scheme on the fuel and energy industry, including but not limited to:
 - i. prices,
 - ii. employment in the fuel and energy industries, and any related adverse impacts on regional centres reliant on these industries,
 - iii. domestic energy supply, and
 - iv. future investment in fuel and energy infrastructure;
- e. the existing set of state government regulatory powers as they relate to petroleum, diesel and gas products;
- f. taxation arrangements on petroleum, diesel and gas products including:
 - i. Commonwealth excise,
 - ii. the goods and services tax, and
 - iii. new state and federal taxes;
- g. the role of alternative fuels to petroleum and diesel, including but not limited to: LPG, LNG, CNG, gas to liquids, coal to liquids, electricity and bio-fuels such as, but not limited to, ethanol;
- h. the domestic oil/gas exploration and refinement industry, with particular reference to:
 - i. the impact of Commonwealth, state and local government regulations on this industry,
 - ii. increasing domestic oil/gas exploration and refinement activities, with a view to reducing Australia's reliance on imported oil, and
 - iii. other tax incentives; and
- i. the impact of higher petroleum, diesel and gas prices on public transport systems, including the adequacy of public transport infrastructure and record of public transport investment by state governments.

Appointment of the Committee

That the committee consist of 8 members, 2 nominated by the Leader of the Government in the Senate, 4 nominated by the Leader of the Opposition in the Senate, 1 nominated by the Leader of Family First in the Senate and 1 nominated by any minority group or independent senator.

- a. On the nominations of the Leader of the Government in the Senate, the Leader of the Opposition in the Senate and any minority group and independent senators, participating members may be appointed to the committee;
- b. participating members may participate in hearings of evidence and deliberations of the committee, and have all the rights of members of committee, but may not vote on any questions before the committee; and
- c. a participating member shall be taken to be a member of the committee for the purpose of forming a quorum of the committee if a majority of members of the committee is not present.

That the committee may proceed to the dispatch of business notwithstanding that not all members have been duly nominated and appointed and notwithstanding any vacancy.

That the committee elect an Opposition member as its chair.

That the chair of the committee may, from time to time, appoint another member of the committee to be the deputy chair of the committee, and that the member so appointed act as chair of the committee at any time when there is no chair or the chair is not present at a meeting of the committee.

That, in the event of an equally divided vote, the chair, or the deputy chair when acting as chair, have a casting vote.

That the committee have power to appoint subcommittees consisting of 4 or more of its members and to refer to any subcommittee any matter which the committee is empowered to examine.

That the committee and any subcommittee have power to send for and examine persons and documents, to move from place to place, to sit in public or in private, notwithstanding any prorogation of the Parliament or dissolution of the House of Representatives, and have leave to report from time to time its proceedings and the evidence taken and interim recommendations.

That the committee be provided with all necessary staff, facilities and resources and be empowered to appoint persons with specialist knowledge for the purposes of the committee with the approval of the President.

That the committee be empowered to print from day to day such documents and evidence as may be ordered by it, and a daily Hansard be published of such proceedings as take place in public.

Appendix 2

Submissions Received

No.	Submitter
01	Mr Mark Minnis
02	Mr Paul Greig
03	Ms Carol O'Donnell
04	People for Ecologically Sustainable Transport
05	Mr David Archibald
05a	Mr David Archibald
05b	Mr David Archibald
05c	Mr David Archibald
06	Australian Lot Feeders' Association
07	Ms Christine White-Heal
08	Vietnam Veterans Motorcycle Club
09	Smithson Planning
10	TNT
11	UnitingCare Wesley
12	Law Council of Australia
13	Mr Leon Voesenek
14	DomGas Alliance
15	Gil J May
16	Meals on Wheels Association
17	WA Sustainable Energy Association Inc
18	Australian Petroleum Production & Exploration Association
18a	Australian Petroleum Production & Exploration Association
18b	Australian Petroleum Production & Exploration Association
19	The West Australian Farmers Federation Inc.
20	National Civic Council (WA)
21	Construction, Forestry, Mining & Energy Union
22	Southern Cross Care (WA) Inc.
23	Gippsland Resources Group
24	Australian Pork Limited
25	CSIRO
26	Biofuels Association of Australia
27	WA Department of Agriculture and Food
28	Mr Danny Stewart
29	CONFIDENTIAL
30	Sustainable Transport Coalition of Western Australia
31	The Royal Automobile Club of Queensland Limited
32	Chamber of Commerce and Industry WA
33	Mr Bob Fozzard
33a	Mr Bob Fozzard

34 Australian Pipeline Industry Association
35 Mr John Morrissey
36 Energy Strategies Pty Ltd
37 Eastern Star Gas Limited
38 Resources and Chemistry Precinct, Curtin University of Technology
39 Mr Alan Harris
40 National Civic Council Sugar Industry Reform Committee
41 Ford Motor Company of Australia Limited
42 Mr J Hanrahan
43 Mr Peter Hulme
44 National Farmers Federation
45 Post Office Agents Association Limited
46 Motor Trades Association of Australia
46a Motor Trades Association of Australia
47 South Australian Farmers Federation
48 Commonwealth Fisheries Association
49 Mr Geoff Ward
50 Dept of the Environment, Water, Heritage and the Arts
51 Mrs M. Isobel Jones
52 Western Power
52a Western Power
53 LPG Australia
54 Mr Denis and Mrs Raelene Auberson
55 Cement Industry Federation
56 South West Group
57 Australian Industry Greenhouse Network
58 Virgin Blue
59 Australian Institute of Petroleum (AIP)
60 Shell Australia
61 Leighton Holdings Limited
62 Spitfire Oil Pty Ltd
62a CONFIDENTIAL ATTACHMENT
63 Qantas Airways Limited
64 Tourism Western Australia
65 ABARE (Australian Bureau of Agricultural and Resource Economics)
66 ExxonMobil Australia Pty Ltd
66a CONFIDENTIAL ATTACHMENT
66b CONFIDENTIAL ATTACHMENT
67 Hon Wilson Tuckey MP, Member for O'Connor
68 BP Australia Ltd
68a CONFIDENTIAL ATTACHMENT
68b CONFIDENTIAL ATTACHMENT
69 Energy Networks Association Ltd
70 Department of Agriculture, Fisheries and Forestry
71 Plantation Energy Australia Pty Ltd
72 Mr Barry Campbell

73	The Australian Workers' Union
74	Energy Supply Association of Australia
75	Griffin Energy
76	ATSE Australian Academy of Technological Sciences and Engineering
77	Queensland Resources Council
78	Hydro Aluminium Kurri Kurri Pty Ltd
79	ResourcesLaw International
80	Gladstone Area Promotion and Development Limited (GAPDL)
81	Mackay Sugar Limited
82	Futureworld National Centre for Appropriate Technology Inc
83	Mackay Conservation Group
84	Mackay Tourism
85	Mr Ralph Davies
86	Mackay Whitsunday Regional Economic Development Corporation (REDC)
87	Mackay Area Industry Network Cooperative (MAIN)
88	Renewable Fuels Australia (RFA)
89	Gippsland Area Consultative Committee Inc (GACC)
90	Wollongong City Council

Appendix 3

Witnesses Who Appeared Before the Committee at Public Hearings

Perth, Monday 17 November 2008

CANION, Mr Andrew, Senior Adviser, Industry Policy
Chamber of Commerce and Industry of Western Australia

CONNELL, Mr John, Manager, Economic Services
Department of Agriculture and Food

CRAWFORD, Mr Steve, Director Strategic Policy
Tourism Western Australia

CUSWORTH, Ms Nicky, Director, Macroeconomic Policy
Department of Treasury and Finance

FITZHARDINGE, Mr Christopher, Director
South West Group

FORREST, Mr Gavin, Manager Strategy
Western Power

FYRST, Mr Valentin, Strategic Policy Adviser
Western Power

HOHNEN, Mr Stuart, Chairman
DomGas Alliance

JOHNSON, Mr Robert, Western Australian Energy Research Alliance Coordinator
Curtin University of Technology

KER, Mr Ian, Committee Member
Sustainable Transport Coalition of Western Australia

LOMAS, Ms Amy, Assistant Director, Emissions Trading Unit
Department of Treasury and Finance

OTTAVIANO, Dr Michael, Managing Director
Carnegie Corporation Ltd

OWEN, Professor Anthony, Professor of Energy Economics
Curtin University of Technology

SOUTHWELL, Mr Phil, General Manager, Strategy and Corporate Affairs
Western Power

TUDOR, Mr Frank, Chair, Resources and Energy Committee
Chamber of Commerce and Industry of Western Australia

WILLS, Dr Raymond, Chief Executive Officer
Western Australian Sustainable Energy Association Inc

WOFFENDEN, Mr Mark, Executive Director, Resources and Chemistry Precinct
Curtin University of Technology

WORTH, Dr David, Committee Member
Sustainable Transport Coalition of Western Australia

Canberra, Wednesday 19 November 2008

BAIN, Mrs Robyn, Chief Executive Officer
Cement Industry Federation

BROSCHOFSKY, Mr Peter, Group General Manager, Environment and Fuel
Conservation
Qantas Airways

CARTWRIGHT, Ms Cheryl, Chief Executive
Australian Pipeline Industry Association

COLLEY, Mr Peter, National Research Director, Mining and Energy Division
Construction, Forestry, Mining and Energy Union

DAVIES, Mr Steven, Policy Adviser
Australian Pipeline Industry Association

DWYER, Mr Damian, Director, Energy Markets and Climate Change
Australian Petroleum Production and Exploration Association Ltd

ELVERTON, Ms Jean, General Manager, Procurement Services
Qantas Airways

FARLOW, Mr Andrew, Sustainability Development Policy Manager
Cement Industry Federation

GRAHAM, Mr Paul, Theme Leader, Energy Futures
Commonwealth Scientific and Industrial Research Organisation

McCALLUM, Mr Mark, Deputy Chief Executive, Policy and External Relations
Australian Petroleum Production and Exploration Association Ltd

McELHONE, Mr Charles, Economics Manager
National Farmers Federation

QUINN, Ms Meghan, Manager, Climate Change Modelling Unit
Department of the Treasury

ROBINSON, Ms Belinda, Chief Executive
Australian Petroleum Production and Exploration Association Ltd

SCHANDL, Dr Heinz, Group Leader and Senior Researcher
Commonwealth Scientific and Industrial Research Organisation Sustainable
Ecosystems

STERLAND, Mr Barry, First Assistant Secretary, Emissions Trading Division
Department of Climate Change

Melbourne, Monday 8 December 2008

ALLMAN, Ms Gemma, Manager, Issues and Government Relations, Upstream
ExxonMobil Australia Group of Companies

ANGWIN, Mr Michael, Executive Director
Australian Uranium Association

BAILEY, Mr Alan, Manager, Issues and Government Relations, Downstream
ExxonMobil Australia Group of Companies

COATES, Mr Peter, Chairman
Minerals Council of Australia

EVANS, Mr Gregory, Director Economics
Australian Chamber of Commerce and Industry

HANNAGAN, Mr John, Chairman
RUSAL Australia

HAUG, Ms Elly, Government Liaison Manager
Ford Motor Co. of Australia Ltd

HOOKE, Mr Mitchell, Chief Executive
Minerals Council of Australia

ISON, Mr Michael, Acting Executive Director
Australian Aluminium Council

KEEN, Mr Gordon, ANZ GHG Issue Manager
ExxonMobil Australia Group of Companies

PEARSON, Mr Brendan, Deputy to Chief Executive
Minerals Council of Australia

Canberra, Monday 2 February 2009

BEASLEY, Mr Burt, Acting Executive Director
Australian Coal Association

BLYTH, Mr Andrew, Chief Executive Officer
Energy Networks Association

BOSHIER, Mr John, Executive Director
National Generators Forum

BOTTO, Mr Carlo, Director
National Generators Forum

BROADBENT, Ms Gail, Sustainable Transport Campaigner
Australian Conservation Foundation

CROFTS, Mr Brad, Environmental Economist
Australian Workers Union

GLEESON, Mr Hugh, Chief Executive Officer, United Energy Development
Energy Networks Association

HITCHENS, Mr Michael, Chief Executive Officer
Australian Industry Greenhouse Network

HOWES, Mr Paul, National Secretary
Australian Workers Union

MORRIS, Mr Peter, Director, Economics
Australian Coal Association

PASCOE, Mr Owen, Climate Change Campaigner
Australian Conservation Foundation

SAVAGE, Ms Clare, Acting Chief Executive Officer
Energy Supply Association of Australia

SCHAAP, Dr Harry, Policy Adviser
National Generators Forum

SCOTT, Ms Samantha, Director, Policy and International
Australian Coal Association

SIMSHAUSER, Dr Paul, Director
National Generators Forum

STIRLING, Mr Ian, Chief Executive Officer, ElectraNet
Energy Supply Association of Australia

WATTS, Ms Emma, Research Officer
Australian Industry Greenhouse Network

Melbourne, Tuesday 17 February 2009

ARMSTRONG, Mr Graham, Associate Consultant
National Institute of Economics and Industry Research

BECK, Dr Vaughan, Technical Director and Fellow
Australian Academy of Technological Sciences and Engineering

BENSON, Ms Paula, General Manager, Corporate Affairs
Alcoa of Australia

BRAIN, Dr Peter, Executive Director
National Institute of Economic and Industry Research

BURGESS, Dr John, Fellow
Australian Academy of Technological Sciences and Engineering

JACKMAN, Mr Gavin, Director, Government Affairs
BP Australia

JACKSON, Mr Robert, General Manager, Policy
Clean Energy Council

LAVER, Mr Peter, Vice President and Fellow
Australian Academy of Technological Sciences and Engineering

MANNING, Dr Ian, Deputy Executive Director
National Institute of Economic and Industry Research

McAULIFFE, Mr Tim, Manager, Environment and Sustainable Development
Alcoa of Australia

PROEGLER, Mr Mark, Director, Environmental Policy
BP Australia

WARREN, Mr Matthew, Chief Executive Officer
Clean Energy Council

Perth, Wednesday 18 February 2009

BRADLEY, Mr Leon, Chairman, Western Graingrowers Committee and Climate
Change Spokesman, Pastoralists and Graziers Association of Western Australia (Inc)

CREMIN, Mr Shane, Market Development Manager
Griffin Energy

CUSWORTH, Ms Nicola, Director, Macroeconomic Policy
Department of Treasury and Finance, Western Australia

EGGLESTON, Mr Peter, External Affairs Manager
Chevron Australia Pty Ltd

KINT, Mr Thyl, Chief Executive Officer
Spitfire Oil Pty Ltd

LOMAS, Ms Amy, Assistant Director, Emissions Trading Unit
Department of Treasury and Finance, Western Australia

LUMB, Mr Matthew, Chief Projects Officer
Griffin Coal Mining Co Pty Ltd

MUMBY, Mr Sheldon, Policy Director
Pastoralists and Graziers Association of Western Australia (Inc)

TORKINGTON, Mr John, Senior Adviser on Climate Change Policy
Chevron Australia Pty Ltd

TRUMBLE, Mr Wayne, Executive General Manager, Power Generation
Griffin Energy

WHITE, Ms Gail, Public Relations Consultant
Spitfire Oil Pty Ltd

Sydney, Thursday 19 February 2009

CROFTS, Mr Bradley, Economist
Australian Workers Union

KEOGH, Mr Michael, Executive Director
Australian Farm Institute

McKIBBIN, Professor Warwick
Private Capacity

WAIN, Ms Fiona, Chief Executive Officer
Environment Business Australia

WESTMORE, Mr Anthony (Tony), Senior Policy Officer (Electricity)
Australian Council of Social Service

WOODWARD, Mr Stephen, Chief Executive Officer
Australian Liquefied Petroleum Gas Association Ltd

Brisbane, Friday 20 February 2009

BEAMES, Mr Ross, Member
Biofuels Association of Australia

FURZE, Ms Susan, Senior Transport Economist
Royal Automobile Club of Queensland

HARRISON, Mr Bruce, Chief Executive Officer
Biofuels Association of Australia

ROCHE, Mr Michael, Chief Executive
Queensland Resources Council

ROTH, Mr Michael, Executive Manager, Public Policy
Royal Automobile Club of Queensland

RYNNE, Mr David, Principal Adviser, Industry Policy
Queensland Resources Council

THORPE, Mr Simon, General Manager, Safety Systems
Virgin Blue Airlines

TOPHAM, Mr Frank, Manager, Government Affairs and Media
Caltex Australia Ltd

WHITE, Mr David, Environment Program Adviser
Virgin Blue Airlines

Wollongong, Wednesday 1 April 2009

CORNISH, Mr Noel, Chief Executive, Australian and NZ Steel Manufacturing
Businesses
BlueScope Steel

GALE, Mr Stephen, Regional Director Climate Change
Futureworld National Centre for Appropriate Technology/Hatch

HAMILL, Mr David, Chairman
Envirogen Pty Ltd

MESSER, Dr Judy, President
Futureworld National Centre for Appropriate Technology

RICE, Mr Jeffrey, Chief Executive Officer
Envirogen Pty Ltd

RORRIS, Mr Arthur, Secretary
South Coast Labour Council

THOMAS, Mr Alan, General Manager Engineering, Technology and Environment
BlueScope Steel

VAN ROOYEN, Mr Jonathan, Director
Envirogen Pty Ltd

Canberra, Thursday 2 April 2009

FISHER, Dr Brian
Private Capacity

HILLMAN, Mr Ralph, Executive Director
Australian Coal Association

MORRIS, Mr Peter, Director, Economic Policy
Australian Coal Association

PEARCE, Mr David, Executive Director
Centre for International Economics

PRICE, Mr Daniel, Managing Director
Frontier Economics

QUINN, Ms Meghan, Manager, Climate Change Modelling Division
Department of the Treasury

RICHARDS, Mr Andrew, Executive Manager, Government and Corporate Affairs
Pacific Hydro Pty Ltd

STERLAND, Mr Barry, Acting Deputy Secretary
Department of Climate Change

WHEELIHAN, Mr Bernard, Chair
Pacific Hydro Pty Ltd

Mackay, Monday 6 April 2009

BRITTON, Mr Tony, Director
Mackay Area Industry Network (MAIN) Cooperative

CAMILLERI, Councillor Darryl, Deputy Mayor
Mackay Regional Council

HILDEBRAND, Mr Quinton, Chief Executive Officer
Mackay Sugar Ltd

HODGSON, Mr John, Projects Manager
Mackay Sugar Ltd

KEARNEY, Mr James, Director
Mackay Area Industry Network (MAIN) Cooperative

OMUNDSON, Mr Barry, Director, Commercial Services
Mackay Regional Council

PEARSE, Ms Narelle, Chief Executive Officer, Mackay Whitsunday Regional
Economic Development Corporation (WREDC); and Managing Director, Mackay
Area Industry Network (MAIN) Cooperative

PHILLIPS, Mr David, General Manager
Mackay Tourism Ltd

WESTCOTT, Mr Charles, Chairman of Directors
Mackay Sugar Ltd

Gladstone, Tuesday 7 April 2009

CHIFFOLEAU, Ms Gaetane, Sustainability and Environment officer
Gladstone Regional Council

CHURCHILL, Mr Glenn, Chief Executive Officer
Gladstone Area Promotion and Development Limited

CREED, Mr George, Mayor
Gladstone Regional Council

DOHERTY, Mr Ronald, Director, Environment and Regulation
Gladstone Regional Council

DONOVAN, Mr Rocky, Vice President
Gladstone Chamber of Commerce and Industry

LAWSON, Mr Matthew, Commercial Manager, Gladstone Plant
Cement Australia

RITCHIE, Mr Stuart, National Sustainability Manager
Cement Australia

ROBERTSON, Mr James, President
Gladstone Chamber of Commerce and Industry

Appendix 4

Index of Documents Tabled at Public Hearings

Perth

Monday, 17 November 2008

Mr Stuart Hohnen, Chairman, DomGas Alliance
Western Australian natural gas demand expected to double by 2015,
Media Release, 10 November 2008

Mr Stuart Hohnen, Chairman, DomGas Alliance
Natural Gas Demand Outlook for Western Australia and Economic Impact,
Report by Economics Consulting Services, October 2008

Mr Gavin Forrest, Manager Strategy, Western Power
Your electricity Network, Brochure

Dr Michael Ottaviano, Managing Director, Carnegie Corporation
Wave Energy Overview, Presentation Slides, November 2008

Dr David Worth, Committee Member, Sustainable Transport
World Energy Outlook 2008, print out of webpage,
<http://www.worldenergyoutlook.org/>

Canberra

Wednesday, 19 November 2008

Ms Belinda Robinson, Chief Executive, APPEA
Existing and Committed LNG Plants, Map

Ms Belinda Robinson, Chief Executive, APPEA
Existing LNG Plants, Map

Ms Belinda Robinson, Chief Executive, APPEA
Existing, Committed and Proposed LNG Plants, Map

Ms Belinda Robinson, Chief Executive, APPEA
List of LNG Projects

Ms Belinda Robinson, Chief Executive, APPEA
Illustrative LNG Cash Flow, Chart

Mr Andrew Farlow, Sustainable Development Policy Manager, Cement Industry Federation
Graphs relating to the Cement Industry

Melbourne

Monday 8 December 2008

Mr Michael Angwin, Executive Director, Australian Uranium Association
Nuclear Power Relieves Climate Change, Chart

Mr Michael Angwin, Executive Director, Australian Uranium Association
Table 2 - Identified Resources, taken from 'Uranium 2007: Resources, Production and Demand'

Mr Michael Angwin, Executive Director, Australian Uranium Association
Outlook for the Uranium Industry: Evaluating the economic impact of the Australian Uranium Industry to 2030, Report, April 2008, Deloitte

Mr Michael Angwin, Executive Director, Australian Uranium Association
Australia's uranium export potential: economic and climate outcomes, Table

Canberra

Monday, 2 February 2009

Mr John Boshier, Executive Director, National Generators Forum
National Generators Forum Statement, Opening Statement

Mr Andrew Blyth, Chief Executive, Energy Networks Association
The Financial Investor Group, Presentation to the AER Forum

Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation
The impact of industry assistance measures under the Carbon Pollution Reduction Scheme, Research Note, Innovest, 2008, Australian Conservation Foundation, Melbourne

Melbourne

Tuesday, 17 February 2009

Dr John Burgess, Fellow, Australian Academy of Technological Sciences and Engineering
Energy Technology for Climate Change: Accelerating the Technology Response, Report, 2008, ATSE

Perth**Wednesday, 18 February 2009**

Mr Shane Cremin, Market Development Manager, Griffin Energy
Opening Statement

Mr Thyl Kint, Chief Executive Officer, Spitfire Oil
Spitfire Oil's Proposed Salmon Gums Mine and Lignite-to-Value (L2V) Coal to Liquids Process, Presentation

Mr Leon Bradley, Climate Change Spokesperson, WA Pastoralists and Graziers Association
Graphs relating to IPCC forecasts

Sydney**Thursday, 19 February 2009**

Ms Fiona Wain, Chief Executive Officer, Environment Business Australia
Foresight, strategy and action to build new remarks, new industries, new jobs,
Synopsis of recommendations on the White Paper

Mr Bradley Crofts, Environmental Economist, Australian Workers Union
Paul Howes' Opening Statement, Monday 02/02/09

Mr Bradley Crofts, Environmental Economist, Australian Workers Union
Over the CPRS Horizon: Balancing the impacts of the global financial crisis with the introduction of the Carbon Pollution reduction Scheme, Position paper

Mr Bradley Crofts, Environmental Economist, Australian Workers Union
Briefing on the CPRS

Mr Stephen Woodward, Chief Executive Officer, Australian LPG Association
Australia's LPG Contributing to a Lower Carbon Future: A presentation to the Senate Select Committee on Fuel and Energy

Brisbane**Friday, 20 February 2009**

Mr Simon Thorpe, General Manager Safety Systems, Virgin Blue
Opening Statement

Mr Michael Roche, Chief Executive Officer, Queensland Resources Council
Opening Comments

Mr Bruce Harrison, Chief Executive Officer, Biofuels Association of Australia
Biofuels Association of Australia, Presentation

Wollongong**Wednesday, 1 April 2009**

Dr Judy Messer, President, Futureworld
My Good Home Guide, booklet

Mr Stephen Gale, Board Member, Futureworld
Using the Marginal Abatement Cost Curve Approach to Identify Efficiency Opportunities, Paper

Mr Noel Cornish, Chief Executive, BlueScope Steel
Opening Statement

Dr David Hamill, Chairman, Envirogen
Act on Granting Priority to Renewable Energy Sources, German legislation

Dr David Hamill, Chairman, Envirogen
Act revising the legislation on renewable energy sources in the electricity sector, German legislation

Dr David Hamill, Chairman, Envirogen
What is at stake?, Paper

Dr David Hamill, Chairman, Envirogen
Typical Costs and Revenues for 20MW WCMG Power Station, Table

Canberra**Thursday, 2 April 2009**

Mr Ralph Hillman, Executive Director, Australian Coal Association

Emissions Trading; risks to jobs, regional economies and investment in the Australian Coal Industry

Mr Daniel Price, Director, Frontier Economics

Alternative approaches to carbon reduction schemes

Gladstone**Tuesday, 7 April 2009**

Mr Stuart Ritchie, National Sustainability Manager, Cement Australia

Opening Statement

Appendix 5

Documents referred to in this report

Australian Bureau of Agricultural and Resource Economics *Commodity Statistical Bulletin 2008*.

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Appendix 6

Terms of Reference of the peer review undertaken by Dr Brian Fisher

A PEER REVIEW OF THE TREASURY MODELLING OF THE ECONOMIC IMPACTS OF REDUCING EMISSIONS

That Dr Brian Fisher (former Executive Director of ABARE and currently of Concept Economics) be engaged to provide a review of the Treasury Modelling Australia's Low Pollution Future: The Economics of Climate Change Mitigation including all relevant publicly available information, and having requested full access to the government's model, documentation, codes and databases, any further information made available by the government, with particular reference to the following:

1. Sensitivity analysis of the assumptions on which the modelling has been undertaken;
2. The impact on global emissions of the government's proposed emissions trading scheme and the potential leakage of Australian jobs and industry in:
 - 2.1 emission intensive trade exposed industries such as aluminium, LNG, cement and agriculture;
 - 2.2 non trade exposed industries such as electricity.
3. The economic and environmental consequences of the Government's proposed eligibility thresholds for emissions intensive, trade exposed (EITE) industry assistance;
4. The consequences of more realistic assumptions concerning:
 - 4.1 the likelihood of the rest of the world taking similar actions to Australia;
 - 4.2 the participation of China in a global emissions trading scheme by 2015;
 - 4.3 the participation of India in a global emissions trading scheme by 2020;
 - 4.4 the immediate participation of the United States in a global emissions trading scheme;
 - 4.5 the likelihood of a global agreement being sustained through the year 2050;
 - 4.6 commercial scale availability and use of carbon capture and storage technology, particularly in the light of assumptions regarding the path of the carbon permit price;
 - 4.7 low or non-existent barriers to international trade in carbon permits;
 - 4.8 the taxation treatment of permits, both in Australia and overseas.

5. The failure to include the impact of the global financial crisis on:
 - 5.1 Australia's capacity to bear the costs of participation in a global emissions trading scheme;
 - 5.2 the rate at which other countries will commence participation in a global emissions trading scheme.
6. The impact of the Government's emissions trading scheme on issues of national security including fuel resources and refining, construction resources and energy security;
7. The impact of the Government's emissions trading scheme on government revenue and spending, and the total revenue that the Government can expect to collect from the scheme through the year 2050;
8. The economic costs of the Government's expanded renewable energy target compared to the costs of alternative policy approaches;
9. Testing the veracity of the conclusions that under the Government's emissions trading scheme by 2050 electricity prices in Australia would rise five times as much as in the US, Canada, Japan and the EU and three times as much as in China over the same period;
10. The impact of the Government's emissions trading scheme and a rising carbon price in all years that the scheme is in place on:
 - 10.1 unemployment;
 - 10.2 cost of living pressures for households, pensioners and individuals more generally;
 - 10.3 inflationary pressures;
 - 10.4 nominal interest rates, and real interest rates;
 - 10.5 Aggregate productivity.
11. The economic impact of Australia introducing a poorly designed scheme in 2010, rather than a better designed scheme in 2011 or 2012, taking into account the decisions of major emitters;
12. The discounted present value of the economic costs and benefits of the Government's proposed emissions trading scheme;
13. The adaptation opportunities that could be foregone as a result of implementing a poorly designed emissions trading scheme, and the economic costs of not implementing those opportunities;
14. The economic impact of the government's emissions trading scheme on farming and agricultural industries, even if those industries are not covered in any scheme before 2015;
15. The desirability of fixed-price permits, versus a price cap on permits;

16. The impact of the government's proposed emissions trading scheme on the financial viability (as opposed to economic viability) of coal-fired electricity generators, both in the short run and long run;
17. The cost and accuracy of compliance measurement, both in Australia and internationally;
18. The economic and environmental implications of the White Paper (due December 2008).

Duration

That the review be completed by 30 January 2009.

Content

That the review consist of written analysis together with supporting data in tabular and diagrammatic form.

Contract

That the consultant comply with the terms of the attached contract.

