

The Senate

Standing Committee on Economics

National Market Driven Energy Efficiency
Target Bill 2007 [2008]

and

Renewable Energy Legislation Amendment
(Renewable Power Percentage) Bill 2008

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Senate Standing Committee on Economics

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LIST OF ACRONYMS

COAG	Council of Australian Governments
DSA	Demand side abatement
ETS	Emissions Trading Scheme
GGAS	Greenhouse Gas Reduction Scheme (NSW)
GHG	Greenhouse Gas
GWh	Gigawatt hour
IPCC	Intergovernmental Panel on Climate Change
MRET	Mandatory Renewable Energy Target
MWh	megawatt hour
NMDEET	National Market Driven Energy Efficiency Target
NEET	National Energy Efficiency Target
NETT	National Emissions Trading Taskforce
ORER	Office of the Renewable Energy Regulator
REC	Renewable Energy Certificates
REPP	Renewable Energy Power Percentages
VEET	Victorian Energy Efficiency Scheme

Chapter 1

National Market Driven Energy Efficiency Target Bill 2007 [2008]

and

Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008

References

1.1 These separate but related bills, the National Market Driven Energy Efficiency Target Bill 2007 [2008] and the Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008, were considered concurrently by the committee. The benefit of this procedure was noted from the evidence that debate continues on the extent to which an emissions trading scheme might be affected by mandated energy efficiency targets.

1.2 The National Market Driven Energy Efficiency Target Bill 2007 [2008] is a private senator's bill, introduced by Senator Lyn Allison (AD-Vic) which was referred to the Economics Committee on 16 August 2007 for report by 22 October 2007. The committee sought and received an extension of time from the Senate on 17 September 2007 to report by the end of the 41st parliament. Further consideration of the bill ceased with the calling of the election on 14 October 2007.

1.3 The bill was restored to the Notice Paper on 14 February 2008 and re-referred to the Economics Committee, with the recommendation that the committee look specifically at the provisions of the bill relating to the definition of energy efficiency activities, monitoring and verification of energy efficiency savings, and the energy efficiency improvement potential for the benefit of the economy through productivity benefits, including effects on GDP, inflation, employment and technology innovation. The committee has conducted a more limited inquiry at a time when the government's own anticipated legislation is demanding the full attention of most experts in this field.

1.4 The Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008 was referred to the Senate Standing Committee on Economics on 12 March 2008 for report by 30 May 2008. This bill was also introduced by Senator Allison. The bill proposes to amend the Renewable Energy (Electricity) Regulations 2001 for the purpose of extending, from 2008, the interim targets of the Mandatory Renewable Energy Target (MRET).

Conduct of the inquiry and submissions

1.5 The committee advertised the inquiry on its website and in *The Australian* commencing on 26 March 2008, calling for submissions by Friday, 18 April 2008. The committee also directly contacted a number of relevant organisations and individuals to notify them of the inquiry, to invite submissions and appearances before the committee.

1.6 Seventeen submissions for the National Market Driven Energy Efficiency Target Bill 2007 [2008] were received as listed at Appendix 1, and 11 submissions for the Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008, as listed at Appendix 2. These appear on the committee's website.

1.7 The committee conducted a public hearing in Melbourne on 12 May 2008 to hear evidence in relation to both bills. Witnesses who appeared before the committee are listed at Appendix 3.

Acknowledgement

1.8 The committee thanks those who assisted with the inquiries.

Background

Position of the committee on climate change policy

1.9 Energy efficiency and renewable energy need to be considered in the context of broader climate change policy. The committee recognises that governments face difficult problems in developing policies which address the challenge of stabilising or reversing the effects of climate change, of which there is irrefutable scientific evidence. Its adverse effects are incremental rather than dramatic, although some effects are already being felt in some locations and among those pursuing particular livelihoods. Governments – of whatever political complexion – have to overcome the short-term political difficulties of introducing hard measures affecting business and employment, while at the same time convincing scientists, and the scientifically literate community, that they are serious about confronting the potentially catastrophic effects of climate change. Ultimately, the long-term goal of reducing greenhouse gas emissions must attract support from both energy consumers and suppliers.

1.10 The committee comes to this inquiry with a common appreciation of the likely problems to be faced in addressing climate change, but with no fixed views on particular strategies for dealing with it. It agrees broadly, for instance with the general view expressed to it that a variety of measures will be needed. It agrees that a market-driven approach is likely to achieve more effective emissions control in the long run. It also agrees that energy efficiency measures can operate in parallel to any carbon trading scheme. The contestable elements include what mix of measures will work best; what timeframes should operate; and how much regulation there needs to be to supplement any market-driven strategy. The committee considers that these

questions should be subject to much more deliberation and debate when the detail of emissions trading is announced later this year.

1.11 The value of this inquiry has been to open the committee's eyes to some dimensions to the climate change abatement debate. It is inevitable that energy cost increases will have significant implications for future economic planning. Changes in the energy market will affect foreign trade, food supplies, electricity supply and the structure of industry. Such effects could drive the economic management agenda of governments – Commonwealth and state – for decades, and will be reflected in the future work of this committee.

1.12 It is necessary to make some reference to the climate change policy debate so far, and provide a context for discussion of the bills under consideration in the light of current government action.

Government policy so far

1.13 Climate change is an issue which has only recently impressed itself on public consciousness. In the minds of many, the threats posed are hypothetical, and the measures to be taken are too technical to be bothered with. Debate and discussion is little heard beyond a relatively small coterie of informed participants. The Coalition made an early start in addressing the challenges of climate change, setting up the Australian Greenhouse Office in 1997. Early interest was not sustained however, and the states and territories decided to take up the issue themselves.

1.14 The National Emissions Trading Taskforce (NETT) was established in January 2004 by state and territory governments responding to a perceived absence of national leadership on greenhouse policy. NETT's purpose was to develop a multi-jurisdictional emissions trading scheme driven by state and territory governments. Significant design work was undertaken for a national emissions trading scheme and NETT consulted widely with stakeholders around the country.¹ NETT's work was pushed aside when the Commonwealth government decided to act on the issue.

1.15 Commonwealth policy development was not revived until the appointment by Prime Minister John Howard of a Task Group on Emissions Trading in December 2006. The tone of the issues paper released by the task force, in early 2007, was criticised for being less than whole-hearted about the urgency of tackling climate change.² Business interests, however, generally approved of its recommendations describing them as 'sensible', whereas they had been critical of Stern, and later of

1 National Emissions Trading Taskforce web site, http://www.emissionstrading.net.au/key_documents/nett_terms_of_reference_july_2007, accessed 22 May 2008.

2 See for instance, Ian Dunlop, *Toward a realistic climate change policy*, Centre for Policy Development, 12 April 2007, at : <http://cpd.org.au/article/towards-realistic-climate-change-policy>.

Garnaut in his review, released in February 2008.³ Industry presumably understands the dimensions of the problems posed by climate change in the long-term, but has an immediate concern for its 'bottom line' in the short-term.

1.16 In the meantime debate was stimulated at home and abroad by a host of organisations and academics with considerable political effect.

Garnaut review

1.17 The Labor government won office in November 2007 and commissioned an independent review on climate change by Professor Ross Garnaut, who provided an interim report in February 2008 and is scheduled to produce a final report by 30 September 2008. The report will inform the government's consideration of the planned medium term emissions trajectory to be announced by the end of 2008.⁴ Emissions targets will also be informed by economic modelling being undertaken by Treasury.⁵

1.18 Garnaut is expected to provide strategies and underpinning design detail on a system for emissions trading (an ETS) to commence in 2010. As noted in the 13 May 2008 Budget statement, the government's policy is built on three priorities: reducing Australia's greenhouse gas emissions; adapting to unavoidable climate change, and helping to shape a global solution.⁶ What is eventually proposed is likely to deal with the three policies set out in the policy document *Labor's 2020 target for a renewable energy future*. These are:

- establishing market-based incentives to reduce greenhouse gases through an emissions trading scheme;
- demand side management measures (ie. energy efficiency), assisting households to contribute to reducing carbon emissions; and
- supply-side measures including support for zero emission and low emission technologies through a national clean coal initiative and a strong renewable energy target.

1.19 The aim is to reduce greenhouse gas emissions by 60 per cent by 2050.

1.20 Professor Garnaut has argued that an ETS will not achieve the lowest cost reduction in emissions unless it is 'supported by measures to correct market failures or

3 For instance, Warwick McKibbin, *Australian Financial Review*, 28 March 2008, p. 83.

4 Senator the Hon Penny Wong, Minister for Climate Change and Water, Speech to the Australian Industry Group Luncheon, 6 February 2008, '*Climate Change: A Responsibility Agenda*', p. 10.

5 Matthew Warren, 'Time to price carbon', *Weekend Australian*, 29 March 2008, p. 1.

6 Budget statement on Climate Change, the economy and the environment by Senator the Hon Penny Wong, Minister for Climate Change and Water and The Hon Peter Garrett MP, Minister for the Environment, Heritage and the Arts, 13 May 2008, p. 11.

weaknesses in areas such as innovation, research and development, energy efficiency and new network infrastructure. 'Those measures would include government programs, regulatory action and financial support for investment'.⁷ The review will develop a set of principles to assist its assessment of whether existing programs are complementary to an emissions trading scheme.

Energy Efficiency

1.21 The government has acknowledged the potential for energy efficiency, recognising that emissions trading alone will not provide the reductions in energy use required and therefore acknowledges energy efficiency as a complementary measure to an emissions trading program. Australian Bureau of Agricultural and Resource Economics research predicts that energy efficiency measures could contribute up to 55 per cent of emission reduction targets by 2050.⁸

1.22 The 13 May 2008 budget statement notes:

The Australian government is committed to bringing energy and water efficiency into the mainstream, providing Australians with cost-effective solutions to reduce their environmental footprint. The government's policies are intended to help households, businesses and the energy services industry move beyond current barriers like high up-front costs and poor information, increasing access to the whole-of-life benefits of energy and water efficiency improvements.⁹

1.23 The Department of Climate Change advised the committee of a number of energy efficiency measures through direct financial incentives, to strengthen energy efficiency regulations and provide information to help households use less energy. The key measures include:

- \$10 000 low interest loans to assist households to install solar, water and energy efficient products;
- rebates for energy-efficiency insulation for 300 000 rental homes;
- \$8 000 rebates for rooftop solar photovoltaic panels;
- \$1 000 rebates for solar hot water systems;
- improved energy and water efficiency standards for new homes and appliances; and

7 Duncan McGregor, 'Road map for the future is unclear', *Weekend Australian*, 29 March 2008, p. 2.

8 Ibid.

9 Budget statement on Climate Change, the economy and the environment by Senator the Hon Penny Wong, Minister for Climate Change and Water and Hon Peter Garrett MP, Minister for the Environment, Heritage and the Arts, 13 May 2008, p. 121.

- making every school a 'solar school' within eight years.¹⁰

1.24 The Department also noted that the COAG Energy Efficiency Sub-Group is looking to accelerate energy efficiency measures to ensure a nationally consistent approach to climate change.¹¹

Renewable Energy

1.25 Renewable energy is another plank in the government's climate change strategy. The policy document *Labor's 2020 target for a renewable energy future* states that the government will:

- ensure that by 2020, at least 20 per cent of Australia's electricity supply – or approximately 60,000 GWh – is generated from renewable sources, equivalent to the electricity used in 7.5 million homes;
- significantly increase the Mandatory Renewable Energy Target (MRET) to 45,000 GWh by 2020 to ensure that with existing renewable capacity, a 20 per cent target is reached;
- work cooperatively with state and territory governments to create a single national renewable energy scheme;
- phase out the renewable energy target from 2020 as emissions trading matures and prices become sufficient to ensure a mandatory renewable energy target is no longer required;
- establish a \$500 million national clean coal initiative to invest in advanced coal technologies to secure jobs and coal exports;
- establish complementary household energy efficiency measures to reduce energy use and keep overall energy bills as low as possible; and
- use Commonwealth revenue from emissions trading to assist low income households in the event of price increases flowing from measures to cut greenhouse gas emissions.¹²

Committee view

1.26 In this chapter the committee considered the wider climate change policy context. The committee notes that an emissions trading scheme will be the centrepiece of the government's climate change policy and that energy efficiency and renewable energy are being considered as complementary measures. The provisions and detail of

10 Department of Climate Change, Submission 11, p.1.

11 Department of Climate Change, Submission 11, p.1.

12 *Labor's 2020 target for a renewable energy future*, Election 2007 Policy Document, Kevin Rudd MP Federal Labor Leader, Peter Garrett MP Shadow Minister for Climate Change, Environment and Heritage and Senator Chris Evans, Shadow Minister for National development, Resources and Energy, October 2007, p. 10.

the energy efficiency bill and the issues raised during the committee's consideration of the bill are considered in detail in chapter two. The provisions and detail of the renewable energy bill and the issues raised during the committee's consideration of the bill will be discussed in chapter three.

1.27 The committee commends the intent of these bills, and has welcomed the opportunity its scrutiny has afforded to keep itself abreast of technical issues in emissions policy. It does not support, however, the passage of these bills in view of the fact that provisions contained in them are likely to be addressed in the far more comprehensive legislation which is due to be introduced later in 2008-09.

Chapter 2

National Market Driven Energy Efficiency Target Bill 2007 [2008]

2.1 In this chapter the committee outlines the purpose of the bill and deals with issues which arose during its consideration.

Purpose of the bill

2.2 The purpose of the National Market Driven Energy Efficiency Target Bill 2007 is to amend the *Renewable Energy (Electricity) Act 2000* to promote the adoption of improved energy efficiencies and cost effective greenhouse gas abatement.

2.3 The bill proposes the establishment of a market for energy efficiency. This would be achieved by setting a National Market Driven Energy Efficiency Target. Tradeable certificates (Energy Efficiency Certificates) would be issued for verifiable energy efficiency savings from activities in addition to that required by current laws.¹ For instance, a manufacturer who makes seven star appliances where only 3.5 stars is the minimum would be awarded certificates equal to the energy saved over a given period.²

Provisions of the bill

2.4 The key provisions in the bill will:

- provide a system to recognise eligible energy efficiency measures beyond that required by regulations;
- establish a market for the energy savings arising from investment in energy efficiency measures;
- introduce a mandated National Market Driven Energy Efficiency Target (NMDEET);
- introduce a trading scheme in energy efficiency certificates which provides for the creation, acquisition and trading of Energy Efficiency Certificates (EECs); and
- establish accreditation methods which encourage only high quality energy efficiency measures while minimising administration costs.

1 Senator Allison, Second Reading Speech, *Proof Hansard*, 14 August 2007, p. 29.

2 Ibid.

Main findings

2.5 The majority of submissions received by the committee pointed to the potential for energy efficiency measures to contribute to reduce emissions, reduce energy use for households and business and reduce the need for investment in energy infrastructure. However, the committee received evidence questioning the effectiveness of an energy efficiency trading scheme of the kind proposed by the bill. In particular, there was disagreement about the design and timing of the scheme proposed in the bill.

Support for the bill

2.6 The term energy efficiency refers to gaining the same, or a higher level of useful output, using fewer inputs.³ Professor Alan Pears acknowledged that energy efficiency improvement can be misunderstood:

...as it involves using less energy to do more. It is abstract. And many fear that it involves 'freezing in the dark' or 'wearing a hair shirt' or the collapse of the economy as we know it.⁴

Benefits of energy efficiency measures

2.7 Most climate change abatement strategies assume that energy efficiency will have a role to play. The International Energy Agency (IEA) supports energy efficiency as a tool for achieving a sustainable energy future:

Energy efficiency can reduce the need for investment in energy infrastructure, cut fuel costs, increase competitiveness and improve consumer welfare.⁵

2.8 An IEA paper on Promoting Energy Efficiency Investments stated:

Policies designed to increase energy efficiency have already delivered significant benefits. Worldwide energy consumption would be 56 per cent higher today than it would have otherwise been without the various EE (energy efficiency) policies that have been implemented since 1973.⁶

2.9 In Britain, the review on the Economics of Climate Change, undertaken by Sir Nicholas Stern argued for energy efficiency as a third element of a policy response,

3 Information available at: <http://www.csiro.au/org/ps18.html> accessed on 10 April 2008.

4 Adjunct Professor Alan Pears, *Submission 4*, p. 2.

5 Information available at: http://www.iea.org/Textbase/subjectqueries/keyresult.asp?KEYWORD_ID=4122, accessed on 19 May 2008.

6 International Energy Agency, *Promoting Energy Efficiency Investments – Case Studies in the Residential Sector*, Executive Summary, 2008, available at: http://www.iea.org/Textbase/publications/free_new_Desc.asp?PUBS_ID=2009, accessed on 19 May 2008.

along with carbon pricing and technology policy. He advocated international co-operation on product standards as a way to boost energy efficiency.⁷

2.10 The Australian Conservation Foundation noted that energy efficiency has been promoted as the quickest and cheapest way to reduce greenhouse gas emissions.⁸ They also commented:

Becoming energy smart will save on household and business energy bills and help protect Australians against the impact of energy price increases as we clean up our energy supply.⁹

2.11 Origin Energy reported that energy efficiency improvements provide excellent 'value for money' in terms of greenhouse gas savings due to an 85 per cent reliance on coal for electricity generation.¹⁰

2.12 The Green Building Council of Australia believes the benefits of energy efficiency are demonstrable, and preferable to bearing the massive cost of infrastructure required to meet the increasing demand for energy.¹¹

2.13 Professor Pears noted the multiple benefits from the adoption of energy efficiency measures including:

- reduced greenhouse gas emissions;
- reduced investment in expansion of energy supply infrastructure;
- reduced vulnerability to blackouts and energy supply interruptions;
- reduced energy bills for households and businesses;
- potential to improve equity (subject to how policy is implemented); and
- potential to improve quality of life and health of Australians by reducing the risk of heat stress and cold-related illness.¹²

2.14 At the hearing Professor Pears told the committee that there was an important requirement for a more effective driver to capture energy efficiency potential.¹³

7 Information available at: http://www.hm-treasury.gov.uk/newsroom_and_speeches/press/2006/press_stern_06.cfm accessed on 19 May 2008.

8 Australian Conservation Foundation, *Submission 13*, p. 2.

9 Australian Conservation Foundation, *Submission 13*, p. 2.

10 Origin Energy, *Submission 7*, p. 4.

11 Green Building Council of Australia, *Submission 6*, p. 4.

12 Adjunct Professor Alan Pears, *Submission 4*, p. 1.

13 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 37.

Economic benefits

2.15 Research undertaken by the McKinsey Global Institute suggests investment in improving energy efficiency has an average return rate of 17 per cent and would generate energy savings of up to \$900 billion annually by 2020:

...the opportunities to boost energy productivity use existing technologies that pay for themselves and therefore free up resources for investment or consumption elsewhere.¹⁴

2.16 Professor Pears reported recent modelling demonstrating that energy efficiency has economic as well as environmental benefit. He cited work by the Centre for International Economics for the Australian Sustainable Built Environment Council which showed that accelerating energy efficiency improvement in the residential and commercial sectors would reduce the cost of CO₂ permits across the economy by 15 per cent and deliver net benefits of many billions of dollars.¹⁵

2.17 The Australian Conservation Foundation noted that:

If we implemented only half of the opportunities identified to cut energy waste, our economy would be \$1.8 billion stronger, 9,000 new jobs would be created and we'd use 9 per cent less energy. In addition we'd cut pollution by 9 percent, while earning a 26 per cent return on our investment.¹⁶

2.18 Senator Hurley asked Mr Mark Lister from Szencorp about the zero or negative costs of energy efficiency mentioned in his opening statement. Mr Lister told the committee that there are many cost effective opportunities from energy efficiency which could be pursued immediately. He cited a number of studies including by the Centre for International Economics, which have considered the cost effectiveness or zero net cost opportunities of energy efficiency.¹⁷ He told the committee:

They established that we could save 30 to 35 per cent of our energy use in that time frame by just using the things that would pay for themselves in that time frame.¹⁸

Contribution of the built environment

2.19 Submissions highlighted that the built environment is responsible for 23 per cent of total greenhouse gas emissions. There is significant potential for reduction

14 Information available at: http://www.mckinsey.com/mgi/publications/Investing_Energy_Productivity/index.asp accessed on 19 May 2008.

15 Adjunct Professor Alan Pears, *Submission 4*, p. 1.

16 Green Building Council Australia, *Submission 6*, p. 3.

17 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 3.

18 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 3.

from energy efficient improvements.¹⁹ Szencorp noted the IPCC studies showing that energy savings of 50 to 75 per cent can be achieved in commercial buildings through aggressive implementation of integrated sets of measures.²⁰

2.20 The Green Building Council of Australia cited research by The Centre for International Economics which showed that:

- electricity demand in residential and commercial buildings can be halved by 2030, and reduced by more than 70 per cent by 2050 through energy efficiency;
- energy efficiency alone could deliver savings of 30-35 per cent across the whole building sector including the growth in the overall number of buildings out to 2050;
- energy savings in the building sector (which accounts for 60 percent of GDP and 23 per cent of greenhouse gas emissions) could reduce the costs of greenhouse gas abatement across the whole economy by \$30 per tonne, or 14 per cent, by 2050;
- by 2050, GDP could be improved by around \$38 billion per year if building sector energy efficiency is adopted, compared to previous economy-wide estimates of the 60 per cent deep cuts scenario; and
- the ability to achieve at least 60 per cent deep cuts in greenhouse gas emissions by 2050 will be significantly enhanced by transforming buildings to deliver energy savings.²¹

2.21 Green Building Council Australia noted the barriers to improved energy efficiency in the industry include split incentives and the fact that energy costs are around one per cent of operating costs. Investors therefore look elsewhere to achieve cost reductions. Despite the barriers, they reported the desire by industry and tenants for improved energy efficiency in new and existing buildings and call for further incentives to achieve this.²²

2.22 The issue of split incentives has been recognised by the government, as noted in chapter one with the 2008-09 Budget announcement of \$150 million over five years in rebates of \$500 for landlords to install insulation in 300 000 rental properties to help reduce energy bills.²³

19 Green Building Council of Australia, *Submission 6*, p. 2.

20 Szencorp, *Submission 8*, p. 2.

21 Green Building Council Australia, *Submission 6*, p. 2.

22 Green Building Council Australia, *Submission 6*, p. 3.

23 Budget statement on Climate Change, the economy and the environment by Senator The Honourable Penny Wong, Minister for Climate Change and Water and The Honourable Peter Garrett MP, Minister for the Environment, Heritage and the Arts, 13 May 2008, p. 23.

2.23 The call for further incentives was supported by Szencorp which cited recent findings by the Intergovernmental Panel on Climate Change on the global potential to reduce approximately 30 per cent of projected baseline emissions by 2020, from both residential and commercial building sectors. This was the highest among all sectors studied.²⁴ Szencorp argued that:

...existing building retrofitting should be a clear focus of any mitigation efforts. New buildings make up a tiny percentage of overall building emissions and policies that target them such as incremental improvements to building codes and standards will not provide the scale of momentum required for implementation of energy efficiency.²⁵

2.24 However, others believe that energy efficiency technology is best considered in the design and planning stage rather than during retrofitting.²⁶

Barriers to energy efficiency measures

2.25 Regarding barriers to energy efficiency Mr Lister expressed the following opinion:

There is a common view that energy efficiency is going to be a by-product of a price on carbon, and that once we implement an emission-trading scheme in Australia that will have an automatic flow-on effect to people picking up energy efficiency—given that that is more cost-effective as energy prices rise. However, I think it has been well-documented over the last few years that a lot of the barriers to people taking up energy efficiency are not related. They are behavioural, they are institutional and they are structural much more than they are driven by price.²⁷

2.26 Mr Lister offered the following explanation to the committee regarding the behavioural barriers to energy efficiency measures:

The quote that I had thought about to explain that is that energy efficiency itself, the saving of electrons in wires, is absolutely invisible. Because it is invisible, we actually look straight past it and we look at things that are more expensive solutions to the same problem.²⁸

2.27 Mr Lister identified other barriers, including: coupling of energy consumption and electricity retailer and distributor profits, network pricing, bidding schemes, high hurdle rates, incrementalism, access to capital and research and development and

24 Szencorp, *Submission 8*, pp 1–2.

25 Szencorp, *Submission 8*, p. 2.

26 M. Hinojosa et al. Potentials and barriers for end-use energy efficiency under programmatic CDM, CD4CDM Working Paper Series, Working Paper No.3 September 2007 draft, p. 33.

27 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 2.

28 Ibid.

deployment issues. A comprehensive list of barriers to energy efficiency are listed at paragraph 2.47.

2.28 Mr Lister further argued that with immediate cost-neutral energy efficiency opportunities available, these measures should be the first to be undertaken.²⁹

2.29 In response to questioning from Senator Hurley on barriers for energy efficiency, Mr Robert Jackson from the Clean Energy Council said there are a range of issues including: split incentives, improving appliance standards and education.³⁰ Although the potential of energy efficiency measures is widely recognised it is also recognised that a number of barriers exist which contribute to the modest uptake of energy efficiency measures to date. Professor Pears noted, however, that despite barriers to energy efficiency there have been a number of modest successes:

- today's refrigerators use two-thirds less energy than those of the mid-1980s, when appliance energy labelling was introduced;
- the appliance efficiency program is avoiding millions of tonnes of greenhouse gas emissions each year at a cost of minus \$23 or less per tonne; and
- many businesses now spend less on energy than they used to.³¹

Committee view

2.30 The committee recognises the potential of energy efficiency measures to contribute to reducing greenhouse gas emissions, reduce energy use for business and households and reduce or slow the investment needed in energy infrastructure to meet economic growth. The committee also notes that there are numerous barriers responsible for the untapped potential for energy efficiency. These are at a number of levels including: market barriers; consumer education; split incentives; high initial costs where potential savings are usually only a small share of the budget of businesses and households; and the relatively low cost of electricity and fuel.

Energy efficiency scheme design

2.31 Submissions raised a number of issues about the design of an energy efficiency trading scheme. Information was provided about research and modelling on energy efficiency undertaken over the last few years.

2.32 The National Framework for Energy Efficiency included modelling on energy efficiency potential and economic costs for a range of scenarios. A number of initial studies investigating a National Energy Efficiency Target were encouraging about what could be achieved.

29 Ibid., p. 4.

30 Mr Robert Jackson, Clean Energy Council, *Proof Hansard*, 12 May 2008, p. 33.

31 Adjunct Professor Alan Pears, *Submission 4*, p. 2.

2.33 Modelling undertaken by McLennan Magasanik Associates for the Sustainable Energy Authority of Victoria regarding the adoption of a National Energy Efficiency Target (NEET) was positive, finding:

...adopting the NEET program, and meeting its objectives, will ensure that we get better use from our existing energy infrastructure and reduce emissions and supply costs...A further advantage is that future costs can be reduced by deferring new capital investments until such time as cleaner generation technologies become less expensive.³²

2.34 The Allan Consulting Group also concluded that a NEET would provide significant benefit:

Achieving annual energy savings of one per cent beyond 'business as usual' (a one per cent NEET) would deliver an increase in consumption of approximately 0.18 per cent by 2014 (\$1.0 billion), while reducing electricity prices to end users and saving 16.5 Mt CO₂e of greenhouse gases. The total net present value of increased real consumption in the economy over the life of the investments initiated by a one per cent NEET is more than \$8 billion dollars (scenario 1).³³

Design concerns

2.35 The level of benefits was questioned by the Productivity Commission in their report *The Private Cost Effectiveness of Improving Energy Efficiency* released on 31 August 2005. It also questioned the veracity of energy efficiency potential noting the assumption that many privately cost-effective energy opportunities exist but have not been taken up and questioned the assumption that the targets would be met solely through the widespread uptake of these investments. In the Commission's assessment this would not occur. The Commission also noted that retailers would seek to pass the costs of meeting energy efficiency targets to their customers and energy suppliers.³⁴

2.36 The Centre for Energy and Environmental Markets (CEEM) questioned the effectiveness of measures based on imputed energy savings stating:

All schemes that focus on driving energy savings have an underlying design flaw because they require a 'baseline and credit' mechanism that estimates savings associated with a particular 'energy efficiency' activity with respect to a hypothetical future baseline. This is inherently counterfactual and cannot be independently measured or verified. As a result it is very difficult to ensure additionality – at the project level (has the activity reduced energy use as much as claimed, and if it has, would this

32 McLennan Magasanik Associates, Report to Sustainable Energy Authority Victoria, *National Energy Efficiency Target*, 23 August 2004, p. 5.

33 The Allen consulting Group, *Economic Impacts of a National Energy Efficiency Target, Simulations Using the Monash MMRF-Green Model*, April 2004, p. vi.

34 Productivity Commission Inquiry Report, *The Private Cost Effectiveness of Improving Energy Efficiency*, Australian Government Productivity Commission, 31 August 2005, p. 310.

have happened anyway because of business-as-usual technical progress or policy drivers), and at the wider level (has this activity resulted in other activities increasing energy use). It is also very difficult to account for the rebound effect – where extra cashflow from energy savings is spent on other activities that increase energy use by that individual/organisation, or on goods and services which increase energy use elsewhere.³⁵

2.37 Mr Tim Kelly highlighted the accounting challenges for such a scheme comparing it with the double counting issues for renewable energy. He stated that the accounting challenges will be as bad or worse with the introduction of a tradeable energy efficiency scheme.³⁶

2.38 Mr Lister raised concerns about the liquidity of the proposed scheme using the Victorian scheme as an example which currently only targets the residential sector, and suggested improving the scope, reach and liquidity of the Victorian scheme by including commercial and industrial sectors as well.³⁷

2.39 Mr Lister also highlighted the measurement aspects as an area for further work:

To get energy efficiency certificates...is a more complicated exercise. We really need to establish what the previous baseline for that activity was, and then an incremental improvement. The Victorian scheme, for example, has proposed the extensive use of deeming formulas in relation to specific appliances and specific techniques that would allow you to calculate the useful life of a particular action in terms of the greenhouse saved over the years that that appliance will be in use. That is a valid approach, and I think there is a lot of emerging work worldwide that is showing that that is fairly robust.³⁸

2.40 In response to questioning by Senator Allison, Mr Lister noted the bill does not address the disincentives for utilities to help their customer to save money as their objective is to increase the amount of electricity they sell rather than to identify the cheapest way to keep customers supplied.³⁹

2.41 Mr Jackson also noted that the design would need to include a way of addressing network losses which he suggested would be the subject of further work outside the scope of the legislation.⁴⁰

35 The University of NSW, Centre for Energy and Environmental Markets, *Submission 9*, p. 1.

36 Mr Tim Kelly, *Submission 15*, p. 1.

37 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 3.

38 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 3.

39 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 6.

40 Mr Robert Jackson, Clean Energy Council, *Proof Hansard*, 12 May 2008, p. 35.

2.42 Mr Haenke from Origin Energy acknowledged that market based schemes offer some attractive features but cautioned that they also tend to present more complex design and operation challenges.⁴¹ In response to questioning from Senator Allison, Mr Haenke told the committee that he was '...not necessarily convinced that a trading scheme is the primary mechanism to deliver energy efficiency outcomes' due to an '...absence of evidence that it necessarily will' but he acknowledged that there was evidence that regulated outcomes can lead to cost-effective abatement.⁴²

2.43 Professor Pears acknowledged that even with energy efficiency trading, he thought a combination of different tools would still be required to deal with some aspects of energy efficiency:

For example, an energy efficiency trading scheme could well provide positive incentives to the leaders, while mandatory standard building codes and things like that could effectively lock in the benefits that were being captured by the leaders through an energy efficiency trading scheme.⁴³

Liability

2.44 Under the bill and other similar proposed models, the energy retailer is the liable party of choice. Origin Energy is of the view that further work is required to determine the most appropriate party, but if this is to continue there should be no impediment to passing the costs of compliance to the end users. Nor should market distortion reduce competitiveness between retailers operating in different market segments and across different states.⁴⁴ Later in this chapter it is noted that witnesses suggested sectors which are not included in the emissions trading scheme should be the target of energy efficiency measures.

Energy efficiency target

2.45 An essential element of the scheme is the setting of a target for energy efficiency improvement. The bill proposes that in the first year the energy efficiency target is to be one per cent, and two per cent in the second year.⁴⁵

2.46 Origin Energy noted there does not appear to be any explanation of why this target was chosen. They caution that the target needs to be chosen on the basis of detailed information about the availability of improvement opportunities, their likely costs and the barriers to capturing them.⁴⁶ Responding to questions from Senator Birmingham, Professor Pears was of the view that the tendency has been to

41 Mr Peter Haenke, Origin Energy, *Proof Hansard*, 12 May 2008, p. 16.

42 Mr Peter Haenke, Origin Energy, *Proof Hansard*, 12 May 2008, p. 19.

43 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 37.

44 Origin Energy, *Submission 7*, p. 8.

45 *National Market Driven Energy Efficiency Target Bill 2007* [2008], p. 24.

46 Origin Energy, *Submission 7*, p. 8.

underestimate savings achieved by energy efficiency. He suggested a preliminary target along with a mechanism to adapt the target based on data collected.⁴⁷

Conclusions

2.47 While research and modelling of energy efficiency measures has found benefits, estimates of the technical, economic and market potential of energy efficiency schemes vary and depend on a range of assumptions. Modelling and research has exposed numerous design challenges in the development of an energy efficiency trading scheme including:

- regulatory imposition upon liable parties;
- establishment of a suitable baseline target;
- split incentives (eg. the owner of a building is responsible for its design or upgrade, while the tenant pays the energy bills), although it is accounted for in the bill;
- the challenge of defining eligible energy efficiency measures, where eligible measures are usually defined by the monitoring and verifying authority in advance which can work against the development of innovative technologies;
- further difficulties in defining energy savings where energy efficiency measures are undertaken by consumers anyway;
- difficulties with the baseline and credit approach in measuring energy efficiency as each credit corresponds to an absence of emissions which must be estimated so the challenge lies in forecasting what would happen in the absence of the scheme;
- challenges with proving additionality, that is, savings beyond 'business as usual' which are difficult to verify and potentially costly;
- determining appropriate monitoring and verification procedures can be complex and resource intensive;
- increased transaction costs;
- discrimination against organisations which currently operate efficiently;
- concerns about the interoperability of emissions trading schemes and energy efficiency schemes such as double counting and the harmonisation of certificates; and
- how to distribute energy efficiency activities so that the most cost effective activities are undertaken, and where energy efficiency measures are likely to become increasingly costly as low cost options are exhausted and the price of certificates therefore increases with more ambitious energy savings targets.

47 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 41.

2.48 The committee notes other challenges as well. The net effect on retail prices is ambiguous. Any reduction in the quantity of electricity demanded may result in a rebound effect. The rebound effect refers to the idea that when people save money as a result of energy efficiency improvements they could use this money to buy more things that use energy.⁴⁸ This occurs when lower costs increase the demand for services to the extent of at least partly offsetting the initial reduction.

2.49 In addition, retail prices of electricity are likely to increase because the suppliers face the additional cost of the scheme. Retailers would pass the transaction costs of complying with the scheme (search for information, cost of certificates, energy efficiency improvements, administrative procedures, verification and monitoring) on to customers and as such it would operate as a tax.

2.50 And finally, electricity price changes affect all consumers while the direct benefits of energy efficiency measures accrue only to those implementing the measures. Free riders (consumers who would have installed energy efficiency measures anyway) benefit most while consumers not implementing any measures benefit least. However, all consumers stand to gain from the benefits unrelated to the electricity market which are emissions reductions.

Committee view

2.51 The committee notes in summary, that against the benefits in potential energy savings, trading provisions generally require complex administration, with corresponding increases in costs to participants and scheme regulators which are passed on to consumers. The committee also recognises the numerous design challenges for an energy efficiency trading scheme. Witnesses told the committee that there is further work required on the design details of the scheme which cannot be dealt with through simple amendments.

Energy efficiency schemes underway

2.52 The committee now turns to investigate similar schemes in operation, how successful they have been and the issues raised about their design and operation. With a growing interest in the use of market-based measures for energy efficiency there is some experience with this approach to draw upon.

NSW Greenhouse Gas Abatement Scheme

2.53 In operation since 1 January 2003, the NSW government's Greenhouse Gas Abatement Scheme (GGAS) creates demand side abatement (DSA) certificates from energy efficient projects. It is a greenhouse gas trading system with an end-use energy efficiency component.

48 Origin Energy, *Submission 7*, p. 4.

2.54 GGAS is underpinned by provisions in the *Electricity Supply Act 1995* (NSW). The NSW government has stated that to date GGAS has resulted in the abatement of some 60 million tonnes of greenhouse gases.⁴⁹

GGAS establishes annual statewide greenhouse gas reduction targets, and then requires individual electricity retailers and certain other parties who buy or sell electricity in NSW to meet mandatory benchmarks based on the size of their share of the electricity market. If these parties, known as benchmark participants, fail to meet their benchmarks, then a penalty is assigned.⁵⁰

2.55 Reviews of the scheme have raised a number of issues:

In a review of the NSW scheme, MacGill et al. argues that the program had a number of weaknesses, including that it was too complex, and that the choice of 'baseline and credit' over a 'cap and trade' mechanism was inappropriate as were its sequestration requirements and baseline calculations. The Centre for Energy and Environmental markets in its *Analysis of the NSW Greenhouse Gas Abatement Scheme* argues that the scheme does not appear to have driven significant abatement to date. Modelling undertaken by the Energy Retailers Association of Australia (ERAA) suggested that the scheme placed a disproportionate burden on NSW residents, as the scheme's abatement activities benefited all Australians. The ERAA argues that the combined effects of the scheme and the MRET resulted in increased electricity costs for NSW consumers.⁵¹

2.56 A number of reviews of the NSW scheme have concluded that it is delivering limited outcomes in terms of energy efficiency. The UNSW Centre for Energy and Environmental Markets are critical of the performance of GGAS. They refer to a number of assessments which concluded that:

GGAS has exhibited low effectiveness (greenhouse emissions have not been reduced by anywhere near as much as is claimed), low efficiency (the modest emission reductions achieved have come at considerable cost) and concerning equity outcomes. While it has certainly driven some innovative and highly worthwhile energy efficiency activities, it has also demonstrated problems including arrangements for energy efficiency lighting and shower heads. It should serve as a cautionary tale for the potential challenges and pitfalls of such types of policy approaches.⁵²

49 NSW Government Department of Water and Energy, *Transitional arrangements for the NSW Greenhouse Gas Reduction Scheme Consultation paper*, April 2008, p. i.

50 Information available at: <http://www.greenhousegas.nsw.gov.au/> accessed on 16 April 2008.

51 Parliament of Victoria, Environment and Natural Resources Committee, *Inquiry into the energy services industry*, June 2006, p. 152.

52 UNSW, Centre for Energy and Environmental Markets, *CEEM Submission to the Consultation paper for the SA Residential Energy Efficiency Scheme*, April 2008, p. 2.

2.57 The NSW government has recognised that the development of a national greenhouse gas trading scheme is the best approach to meet the challenges of climate change and has legislated to ensure that GGAS will end when a national emissions trading scheme commences. The reason provided is that:

Because the two schemes cause a price to be applied to greenhouse gas emissions associated with energy consumption, it would be confusing to have multiple price signals. The cessation of GGAS will also have the effect of avoiding duplication of obligations for industry.⁵³

2.58 The NSW government has issued a consultation paper on transitional arrangements and has created a consultation group on DSA to discuss options. This group will examine transition options specifically for the DSA elements of GGAS and will report to the Minister for Climate Change, Environment and Water and the GGAS-NETS Transition working group which will examine all remaining issues.⁵⁴

Victorian Energy Efficiency Target (VEET)

2.59 The VEET scheme will operate in a similar way to GGAS. The key differences are:

- VEET covers gas and electricity retailers, whereas GGAS covers electricity retailers only; and
- GGAS accredits a broader range of eligible certificate creation activities, including carbon sequestration.

2.60 The *Victorian Energy Efficiency Target Act 2007 (Vic)*, passed on 11 December 2007 sets up the Victorian Energy Efficiency Scheme (VEET) which will commence on 1 January 2009.

To prepare for a carbon-constrained future, the government recognised that it would need to pursue a range of policy initiatives including support for the introduction of a national emissions trading scheme, a renewable energy strategy, an energy efficiency strategy and the energy technology innovation strategy.⁵⁵

2.61 The scheme's objectives are to:

- reduce greenhouse gas emissions;
- encourage the efficient use of electricity and gas; and

53 NSW Government Department of Water and Energy, *Transitional arrangements for the NSW Greenhouse Gas Reduction Scheme Consultation paper*, April 2008, p. 1.

54 NSW department of Water and Energy, *Transitional arrangements for the NSW Greenhouse Gas Reduction Scheme: Consultation paper*, April 2008, p. 1.

55 Victorian Parliamentary Hansard, 1 November 2007, p. 3796.

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- encourage investment, employment and technology development in industries that supply goods and services which reduce the use of electricity and gas by consumers.⁵⁶

2.62 The scheme sets a target for energy savings to be achieved through the uptake of energy efficient technology, initially in the household sector. Energy retailers are required to meet the targets by acquiring and surrendering Victorian Energy Efficiency Certificates (VEECs) each year. These certificates can be created by providing energy saving products and services to households. Large electricity and gas retailers will be required to purchase and surrender certificates each year in proportion to their annual purchases of gas and electricity. A penalty will be imposed where entities fail to surrender sufficient certificates to offset their liability.⁵⁷

2.63 Initially the VEET will set a target of 2.7 million tonnes of greenhouse gas emissions abatement each year for the first three years (2009-2011). The three year target is the equivalent of making 675 000 households carbon neutral for a year.⁵⁸ The Victorian government believes the scheme will complement a future emissions trading system and the operation of the scheme will be independently reviewed by 31 December 2011.

2.64 Proponents of VEET claim that it will result in millions of tonnes of low-cost abatement while lowering household energy costs. Evidence suggests that households are relatively unresponsive to energy price increases and therefore national emissions trading scheme cannot be relied upon to motivate households to act on the full suite of available efficiency measures. The VEET will encourage the uptake of energy efficiency activities by households. By reducing energy use, the VEET scheme will help households mitigate the effects of a national emission trading scheme.⁵⁹

2.65 Szencorp broadly agrees with the text of the bill and notes that the Victorian model currently under construction provides valuable lessons and would be an appropriate model for a national scheme in terms of design.⁶⁰

South Australia

2.66 On 18 February 2008 the South Australian government announced a new energy efficiency incentive scheme for households known as the Residential Energy Efficiency Scheme (REES). At this stage the government is not proposing that this scheme would be tradeable. Under the Residential Energy Efficiency Scheme (REES), energy retailers operating in South Australia are required to achieve targets for

56 *Victorian Energy Efficiency Target Act 2007*, p. 5.

57 Information available at: <http://www.esc.vic.gov.au/public/VEET> accessed on 16 April 2008.

58 Information available at: <http://www.esc.vic.gov.au/public/VEET> accessed on 16 April 2008.

59 Victorian Parliamentary Hansard, 1 November 2007, p. 3796

60 Szencorp, *Submission 8*, p. 6.

delivering energy audits to low income households; and implementing energy efficiency improvements in households.

2.67 The REES will start on 1 January 2009 for all South Australian households. Participation is likely to be at little or no cost as energy retailers are expected to offer households incentives to adopt energy saving measures. The South Australian government believes that by reducing energy use and energy bills this scheme will assist households to prepare for the energy cost increases which are expected from a national emission trading scheme.⁶¹

2.68 Speaking about the various schemes in the states, Mr Haenke told the committee that a single tradeable national energy efficiency target scheme would be preferable to a collection of incompatible state based schemes. He argued that the existence of a number of schemes increases complexity and cost.⁶²

2.69 In response to questioning from Senator Eggleston, Professor Pears was of the view that it was preferable to act at the national level now, before the various state programs are fully entrenched. He told the committee that it was important to note the lessons provided by water and energy market reform: that waiting until later can be messy, take a long time and have a lot of inefficiencies.⁶³ Professor Pears told the committee that it is really a question of whether the Commonwealth wants to lead or be an observer in this area and the view he gave was that it is probably more efficient in many ways to be the leader.⁶⁴

Committee view

2.70 The committee notes that from 2009 there are likely to be in operation three incompatible domestic schemes, initiatives of state governments as described above. The committee recognises that from a compliance perspective this has the potential to increase costs for energy providers, industry and consumers. Isolated schemes also risk adverse interactions with other climate change policies that will reduce their effectiveness. If an energy efficiency scheme is to be developed the committee believes that a single national scheme that replaces these is likely to be more efficient.

The overseas experience

2.71 Energy efficiency schemes have been underway or are planned in a number of countries and these experiences should provide ideas for the design of an Australian scheme.

61 Information available at: http://www.dtei.sa.gov.au/energy/government_programs/REES.html accessed on 21 April 2008.

62 Mr Peter Haenke, Origin Energy, *Proof Hansard*, 12 May 2008, p. 17.

63 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 37 and p. 39.

64 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 39.

Europe

2.72 In Europe, the tradeable instruments for energy efficiency trading schemes are known as white certificates. These are instruments issued by an authority or an authorised body providing a guarantee that a certain amount of energy saving has been achieved. Each certificate is a unique and traceable commodity that carries a property right over a certain amount of additional savings and guarantees that the benefit of these savings has not been accounted for elsewhere.⁶⁵

2.73 Several countries within the European Union have implemented a white certificate scheme. Italy started a scheme in January 2005 for distributors of electricity and gas and France in July 2006 for electricity, gas and heat and fuel suppliers. Britain has combined its obligation system for energy savings with the possibility to trade obligations and savings for electricity suppliers. The Netherlands are considering the introduction of such a scheme.

2.74 Difficulties identified in foreign schemes include high prices and double counting. However, studies have also found potential to achieve high effectiveness in regard to energy savings and efficiency.

United States

2.75 Several states are adopting Energy Efficiency Portfolio Standards (EEPS) which require energy providers to meet a specific portion of their electricity demand through energy efficiency.⁶⁶ This requires utilities to use energy efficiency to meet ten per cent of their demand growth by 2004. The ten per cent reduction in load growth goal was exceeded in 2004 and in that year:

...Texas saved more than 400 million kWh at a cost of \$82 million, for a net benefit of \$76 million to date. California's 10-year EEPS is estimated by 2013, to result in annual savings of over 23,000 gigawatt-hours (GWh) electricity and 400 million therms natural gas. Peak electricity demand savings are expected to top 4,800 megawatts.⁶⁷

2.76 In response to questioning by Senator Birmingham regarding comparable foreign legislation, Mr Lister told the committee that none have been in place long

65 P. Bertoldi and S. Rezessy, *Tradable Certificates for Energy savings (White Certificates) – Theory and Practice*-, European Commission Directorate-General Joint Research Centre, 2006, p. 35.

66 Information available at: http://www.epa.gov/cleanenergy/documents/gta/guide_action_chap4_s1.pdf accessed on 29 April 2008.

67 Information available at: http://www.epa.gov/cleanenergy/documents/gta/guide_action_chap4_s1.pdf accessed on 29 April 2008.

enough to be evaluated, but the early evidence indicates that energy savings are being achieved.⁶⁸

Committee view

2.77 The committee notes that experience with schemes to date remains limited with continuing debate over their effectiveness. Reviews note the mixture of schemes, their varied performance and their tendency to become complex and therefore expensive. Energy efficiency scheme experiences in Australia and abroad have highlighted many of the challenges and unresolved questions for such schemes and the need for comprehensive, coherent and coordinated policy support to achieve energy efficiency improvements. The committee accepts that a national scheme would be preferable.

Energy efficiency as a complementary measure

2.78 The Commonwealth government announced that a national emissions trading scheme (ETS) will be the core element of the government's strategy to reduce greenhouse emissions. A key design question therefore is how an energy efficiency scheme would fit and work with an ETS to ensure their interaction does not undermine the efficiency and effectiveness of each. This issue is not addressed by the bill under consideration.

Interaction with an emissions trading scheme (ETS)

2.79 Emissions trading represents a 'cap and trade' system which trades measurable physical emissions which is very different to the 'baseline and credit' schemes that trade hypothetical emissions reductions. Climate change is driven by the quantity of greenhouse emissions going into the atmosphere, not the amount of emissions reductions and this is clearly acknowledged in the Kyoto protocol which sets fixed emissions caps on developed countries.⁶⁹

2.80 An ETS alone could drive energy efficiency improvements due to higher costs which in turn results in higher investments in energy efficiency. However, an emission trading scheme alone may not provide sufficient incentives to mobilise the benefits that come with energy efficiency measures.

2.81 As outlined in chapter one, the government has recognised energy efficiency as a complementary measure to an ETS. Energy efficiency as a complementary policy was supported by Mr Lister who told the committee:

68 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 8.

69 I. MacGill and H. Outhread, The University of NSW School of Electrical Engineering, Electricity Restructuring Group, *Energy Efficiency Certificate Trading and the NSW Greenhouse Benchmarks Scheme*, Draft ERGO discussion paper, April 2003, p. 23.

...there is a widely held view that emissions trading is a panacea and that it will be your greenhouse response strategy. Our answer is that it is not a strategy but is a single, very important measure. A strategy requires a suite of measures and there is a reason certain things will not be brought about by an emissions trading scheme...alongside that there is a very well recognised and well studied need to create complementary measures to create specific outcomes that sit alongside the overall carbon reduction outcome.⁷⁰

2.82 Mr Lister further argued that energy efficiency is another key area where complementary measures are needed alongside an emissions trading scheme:

...we have seen pretty conclusively that as power prices go up energy use does not go down proportionately. It is quite an inelastic thing. In fact, people are happy to waste energy. It is a very small percentage of their outgoings. It is a small percentage of their life, if you like.⁷¹

2.83 The important policy aim is to ensure the benefits of an ETS and energy efficiency measures are maximised, and that their interaction does not reduce their effectiveness. As one report pointed out:

...NSW electricity retailers have obligations under the federal MRET [Mandatory Renewable Energy Target] legislation, which the NSW scheme also permits them to count, in part, towards meeting their NSW Benchmarks obligation. The physical change in industry behaviour driven by these two measures is therefore not fully additive and the credibility of both schemes may be threatened.⁷²

2.84 Research noted there are considerable challenges for policy makers to predict the interaction between climate change schemes:

...broad reaching measures are likely to overlap other policy measures, and it is possible for interactions between them to reduce their respective environmental effectiveness.⁷³

2.85 Mr Peter Haenke from Origin Energy, while supportive that complementary measures to an ETS will be required, was of the view that in the developing climate change policy environment, further consideration of the processes underway, particularly the development of an ETS, needs to occur prior to the introduction of scheme such as the one proposed in the bill.⁷⁴ He stated that the design of an energy efficiency scheme should complement an ETS to ensure the efficacy of each scheme

70 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 4.

71 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 5.

72 I. MacGill et al, 'Some design lessons from market-based greenhouse gas regulation in the restructured Australian electricity industry', *Energy Policy* 34 (2006), p. 22.

73 MacGill et al, 'Some design lessons from market-based greenhouse gas regulation in the restructured Australian electricity industry', *Energy Policy* 34 (2006) p. 22.

74 Mr Peter Haenke, Origin Energy, *Proof Hansard*, 12 May 2008, p. 16.

is maintained. He noted that in practice this could be difficult and involve complex trade-offs.⁷⁵

2.86 Mr Haenke specifically mentioned potential issues such as a shift in capital expenditure to the consumer, potential softening in carbon price, risk of reducing incentives to invest in low-emission generation technologies, potential for double counting and potential complications if Australia wished to engage in activities using the joint implementation mechanisms of the Kyoto protocol.⁷⁶

2.87 Senator Allison asked Mr Haenke for clarification on his concerns about the interaction with an ETS. Mr Haenke stated that further work would be required on how an energy efficiency target would be built into the target of the overall ETS. For instance, whether a number of emissions trading permits for energy efficiency are quarantined. This contrasts with the MRET which Mr Haenke noted is a separate scheme and with no potential for double counting.⁷⁷ Mr Haenke concluded that while supporting energy efficiency:

To move to introduce energy efficiency trading ahead of emissions trading potentially locks us into a particular path that may then cause difficulty in an emissions-trading world....Rushing into an energy efficiency trading scheme ahead of thinking through how that interacts with an emissions-trading scheme may cause some problems.⁷⁸

2.88 Mr Lister argued that an ETS, and the associated rising energy costs will not directly target energy efficiency so we need specific measures. He went on to say that these measures are not only a trading scheme but that we need to change the way we view energy:

Our argument is that rather than generating another megawatt of electricity in the outback somewhere – in the case of geothermal, it is miles and miles from any population – and building huge networks to bring it to us and all paying for it, we are much better off to save a megawatt here... We can do it for a fraction of the cost of that generation infrastructure.⁷⁹

2.89 Senator Webber questioned Mr Haenke about clarifying policy objectives given that energy efficiency measures can also reduce greenhouse gas emissions as well as achieve energy efficiency. Mr Haenke responded that policy makers would have to decide on the primary objective and used the following example:

You may have an option to change your heater at home from a low-efficiency electric heater to a high-efficiency electric heater or a low-efficiency gas heater. Without doing some numbers, you would not

75 Ibid., p. 17.

76 Ibid.

77 Ibid, p. 19.

78 Ibid., p. 20.

79 Mr Mark Lister, Szencorp, *Proof Hansard*, 12 May 2008, p. 7.

know straight away whether the low-efficiency gas heater was better or worse than the high-efficiency electric heater just because gas is a lower greenhouse intensity fuel source than electricity.⁸⁰

2.90 Professor Pears told the committee about the principle that energy efficiency can reduce the cost of emissions trading if the cost of energy efficiency is lower than the price of a permit but he acknowledged that this does not always happen.⁸¹

2.91 In response to questions from Senator Allison, Professor Pears said that there was much detail yet to be developed. He believed an energy efficiency trading scheme could be run separately from an ETS as has occurred with MRET from 2001. He suggested that once the ETS commenced, the government could outline how the energy efficiency certificates would interact with the ETS.⁸² Further, he suggested that as the ETS will involve a threshold above which organisations participate, an energy efficiency trading scheme could focus sectors not covered by the ETS.⁸³

2.92 Finally, Professor Pears stated that the sooner and the bigger the savings captured through energy efficiency are, the lower the cost and political difficulty of delivering emissions trading will be. Early action in this area would facilitate a smooth introduction of emissions trading.⁸⁴

Design integration issues

2.93 Origin Energy reported that the certificates created on the demand side:

...could be bought up by a liable party under NETS [National Emissions Trading Scheme] (eg. A power station) and used towards compliance, this would result in an increase in the cap (since the 'freed up' permit would also be available for use). This is commonly referred to as double counting and is the main reason that the NETT [National Emissions Trading Taskforce] concluded that energy efficiency would not be an eligible source of offsets under NETS. Origin strongly agrees with this conclusion.⁸⁵

2.94 Research noted this difficulty of energy-efficiency measures in emissions trading and how to quantify the reduction in CO₂ emissions that result from an energy efficiency measure, particularly for improvements in end-use efficiency.⁸⁶

80 Mr Peter Haenke, Origin Energy, *Proof Hansard*, 12 May 2008, p. 21.

81 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 37 and p. 38.

82 *Ibid.*, pp 39–40.

83 *Ibid.*, p. 40.

84 *Ibid.*, p. 42.

85 Origin Energy, *Submission 7*, pp 11–12.

86 P. Bertoldi and T. Huld, 'Tradable certificates for renewable electricity and energy savings', *Energy Policy* 34 (2006) pp 212–222.

2.95 To address this issue the Centre for Energy and Environmental markets suggested:

To avoid double counting, the creation of an avoided tCO₂ from energy efficiency in a covered sector would then require that the cap of the ETS be adjusted down by a tCO₂ as well.⁸⁷

2.96 The Productivity Commission has pointed out that the advantages of emissions trading over energy efficiency schemes included a more comprehensive range of greenhouse gas abatement options, better functioning markets, potentially lower administration costs and more certainty of meeting a greenhouse gas abatement objective:

If a NEET was introduced in addition to an emissions trading scheme, it would not necessarily create emissions reductions additional to what would be achieved with emissions trading alone. If a cap and trade scheme can be adequately enforced and compliance levels are high, then it is likely that total emissions from participants will be less than or equal to the aggregate cap. If both schemes are in place, activities that are implemented to earn energy efficiency certificates could also reduce total emissions. These emissions allowances, which have been 'freed up' by energy efficiency activities, would then be banked for subsequent use or sold to other emissions trading participants to cover equivalent increases in emissions.⁸⁸

2.97 The Productivity Commission also questioned whether a NEET could be integrated with an emissions trading scheme without threatening its credibility.⁸⁹ Professor Pears acknowledged that there are a number of issues which need to be addressed including potential administrative costs, complexity and enforcement issues as well as ensuring the target is set appropriately. He told the committee that he was of the view that an energy efficiency trading scheme can be designed to take into account multiple benefits of energy efficiency, including greenhouse gas emissions.⁹⁰

Committee view

2.98 The committee notes that the interactions between an energy efficiency trading scheme and a national emission trading scheme require careful consideration to ensure the credibility of both. Rather than designing an energy efficiency scheme in isolation, the committee would prefer to see the options for an energy efficiency trading scheme considered alongside an emissions trading scheme.

87 UNSW, Centre for Energy and Environmental Markets, *Review of Market-based Schemes to Drive Energy Efficiency*, January 2008, p. 7.

88 Australian Government Productivity Commission, *The Private Cost Effectiveness of Improving Energy Efficiency*, 31 August 2005, p. 318.

89 Australian Government Productivity Commission, *The Private Cost Effectiveness of Improving Energy Efficiency*, 31 August 2005, p. 318.

90 Adjunct Professor Alan Pears, *Proof Hansard*, 12 May 2008, p. 38.

Timing

2.99 Submissions referred to the simultaneous development of an energy efficiency trading scheme and a national emissions trading scheme. They also questioned the timing of the bill given that there are a number of critical reviews underway which will affect the operation of such a scheme as outlined in chapter one. Origin Energy stated:

We consider Senator Allison's Bill to have made a timely contribution to the policy debate, but do not feel that this is an appropriate way to develop such a complex piece of policy. This is particularly true in the current policy environment, where there are numerous processes underway that need to be considered. In particular, this includes the design of a national emissions trading scheme.⁹¹

2.100 TRUenergy submitted that the bill is premature as it does not constitute a comprehensive review and evaluation of all energy efficiency measures and policy processes currently underway.⁹² Ergon Energy called on the government to avoid a fragmented approach to address carbon emissions and energy efficiency which would impose a premium well above least cost which would be ultimately be passed on to the consumer.⁹³

2.101 The Department of Climate Change advised the committee that since the Wilkins review, the Garnaut review and the COAG process will be providing further guidance on the role and composition of complementary measures alongside the proposed Emissions Trading Scheme, it was premature to comment on the potential application of an energy efficiency target.⁹⁴

Call for a national energy efficiency strategy

2.102 A number of submissions called for a national energy efficiency strategy that would outline where and how energy efficiency will fit within broader climate change policy response. Ergon Energy called for a comprehensive national approach to climate change policy which addresses both carbon emissions and incentives for energy efficiency. They further supported a national approach to energy efficiency 'provided it aligns with the same principles of the ETS and reducing emissions at the lowest costs to consumers'.⁹⁵ This stance was also supported by the ERAA.⁹⁶

91 Origin Energy, *Submission 7*, p. 2.

92 TRUenergy, *Submission 12*, p. 4.

93 Ergon Energy, *Submission 11*, p. 2.

94 Department of Climate Change, *Submission 17*, p. 1.

95 Ergon Energy, *Submission 11*, p. 2.

96 Energy Retailers Association of Australia Incorporated, *Submission 10*, p. 2.

2.103 Mr Haenke suggested to the committee that a national energy efficiency strategy should be developed which fits within the overarching climate change context. Without this, he saw danger of developing ad hoc or isolated policy measures.⁹⁷

2.104 Origin Energy suggested that such a strategy would be: based on clear policy objectives; developed at the national level; developed in a way that considers the broader regulatory context; fit for purpose; and able to consolidate existing measures where appropriate.⁹⁸

2.105 An example is New Zealand where in October 2007 the government released its revised New Zealand Energy Efficiency and Conservation Strategy⁹⁹ which was first released in 2001. A review of the 2001 strategy after five years found very modest improvements in energy efficiency:

To reach the existing national target would require an improvement of 2.5 per cent per year, which is greater than international best practice at two per cent. New Zealand is currently tracking at a rate of improvement of between 0.5 and one per cent per year.¹⁰⁰

2.106 The new strategy builds on the experience of the 2001 version to identify the programs performing well and addresses the barriers that prevented the uptake of cost effective energy efficiency practices.

Committee view

2.107 The committee notes the future of the work undertaken on the National Framework on Energy Efficiency is unclear and urges the government to articulate the direction to ensure integrated and effective action and regulatory clarity for investors and industry. Piecemeal responses have the potential to be costly and ineffective and industry needs regulatory certainty to remain competitive.

Other considerations in the development of energy efficiency policy

2.108 The government has recognised that climate change mitigation measures will come at a cost to industry and the consumer but that the government will deliver measures to reduce emissions at least cost.¹⁰¹ Professor Pears noted that numerous studies have shown that any effective greenhouse response strategy must include a

97 Mr Peter Haenke, Origin Energy, *Proof Hansard*, 12 May 2008, p. 16.

98 Origin Energy, *Submission 7*, p. 2.

99 New Zealand Government, *New Zealand Energy Efficiency and Conservation Strategy*, October 2007.

100 Information available at <http://www.eeca.govt.nz/about/national-strategy/index.html>, accessed on 16 April 2008.

101 Senator the Hon Penny Wong, Minister for Climate Change and Water, *Climate Change: A Responsibility Agenda*, Speech to the Australian Industry Group Luncheon, 6 February 2008.

large component of energy efficiency improvement if emissions are to be reduced at a manageable cost.¹⁰²

2.109 In the interim report on emissions trading delivered in February 2008, Professor Garnaut recognises that the legal responsibility to purchase emissions permits will largely rest with energy generators and the cost will be passed on to consumers in the form of higher electricity and other energy prices, at least in the early years. The review acknowledges that such price rises will disproportionately affect low income households but that the scheme:

... is not intended incidentally to have large and arbitrary effects on the distribution of income – and in particular, not to redistribute income away from people on low incomes.¹⁰³

2.110 Speaking as a non-expert on climate change, Reserve Bank Governor Glenn Stevens told the House of Representatives Economics Committee that in relation to the effect on the economy of an emissions trading scheme:

One of the things the community will have to accept in that world is that this is a reduction in living standards insofar as our purchasing power over energy intensive things is concerned. We have got to accept that. If we try to collectively push up our wages to get that back, that actually would defeat the intention of the policy. Obviously that would present a second-round problem for us if that occurred. If the policy is well explained, then that need not occur, but that will involve people accepting that there is a living-standard reduction in that sense associated with this, it seems to me.¹⁰⁴

Committee view

2.111 The committee notes the principle expressed by some witnesses that energy efficiency could reduce the cost of emission trading but also notes this is not always the case. The committee recognises that one of the most important features of a cap and trade emissions trading scheme is that the scheme will allow an emissions target to be met at least cost. An energy efficiency scheme set up in isolation from other climate change strategies may increase the cost of securing emissions reductions, with administrative costs being passed on to consumers. The committee encourages the government to consider measures, including using existing market infrastructure as much as possible when designing energy efficiency schemes so as to reduce administrative costs.

102 Adjunct Professor Alan Pears, *Submission 4*, p. 2.

103 *Garnaut Climate Change Review Interim Report To The Commonwealth, State and Territory Governments of Australia*, February 2008, p. 48.

104 House of Representatives *Hansard*, 4 April 2008, p. 28.

Equity issues

2.112 The cost of an energy efficiency trading scheme would be additional to the cost increases which will result from the national emissions trading scheme. The effect of these costs on low income households has yet to be addressed. There is an equity issue here. Higher income families who could afford the energy efficiency improvement would be subsidised by low income consumers.

2.113 Research showed that this can be overcome:

Careful planning can facilitate solutions to enable low-income people to both respond to climate change and avoid further disadvantage. Solutions may include ...the availability of interest-free loans for energy efficient appliances, with repayments drawn from household energy savings...¹⁰⁵

2.114 In Belgium and in Britain energy companies are required to ensure that there are also savings in low income households.¹⁰⁶ In Britain at least 50 per cent of the energy efficiency measures must take place in low income households.¹⁰⁷ New Zealand has provided 'energywise' home grants to low income families and the landlords of properties with low income tenants for energy efficiency improvements.¹⁰⁸

Committee view

2.115 The committee encourages the government to investigate options to reduce the burden on low-income households and provide access to energy efficiency technologies through assistance programs.

Other issues raised during the committee's consideration of the bill

The effect of population and consumption growth

2.116 Mr Matt Brazier drew the committee's attention to the role of affluence and population growth as drivers of consumption growth and he believes that currently these drivers are open-ended and exponential whereas the opportunities for energy efficiency are limited. He pointed out that improving efficiencies will make a permanent difference if demand growth is zero:

105 Janet Stanley, *Climate Change: The Opportunities and Costs of Carbon Pricing and Trading*. *Just Policy*, No. 46, December 2007, p. 62.

106 World Energy Council, *Energy Efficiency Policies around the World: Review and Evaluation*, 2008, p. 79.

107 O. Langniss and b. Praetorius, 'How much market do market-based instruments create? An analysis for the case of "white" certificates', *Energy Policy* 34 (2006), p. 202.

108 New Zealand Government. *New Zealand Energy Efficiency and Conservation Strategy*, October 2007, p. 24.

So long as basic demand continues to grow, efforts aimed at addressing environmental issues through efficiency improvements are like feeding a crocodile lean meat in the hope that it won't grow bigger.¹⁰⁹

2.117 The committee notes that population growth is an important determinant of greenhouse gas emissions through its relationship to economic growth and energy consumption but that population growth and consumption growth fall outside the focus of the inquiry.

Drafting options

2.118 Hydro Tasmania questioned whether such a scheme should be introduced using the *Renewable (Electricity) Act 2000* stating that:

While it is understood that the MRET [Mandatory Renewable Energy Target] Act provides a workable framework for establishing an energy efficiency target, we believe that an energy efficiency target would be better established through its own separate legislation in order to avoid confusion between the two targets and retain the integrity of each measure. This could be achieved by developing separate mirror legislation to the MRET Act and adapting/adding clauses specific to the proposed energy efficiency target.¹¹⁰

2.119 The committee notes the alternative drafting option.

Conclusion

2.120 The committee recognises the stimulus that the bill has provided to the climate change policy debate. It acknowledges that energy efficiency measures have the potential to contribute to greenhouse gas abatement and reduce energy wastage. However, the committee does not believe it is appropriate to consider energy efficiency in isolation from the broader climate change policy context and particularly the emerging national emissions trading scheme.

2.121 The committee remains concerned that measures are not developed in isolation, but form part of an overall policy to address climate change, ensuring the effectiveness and efficiency of all measures. The committee is particularly concerned that the bill does not anticipate the direction of emissions trading developments in ways which may have unintended consequences. The committee would like to see certainty over how a measure such as an energy efficiency trading scheme would interact effectively with an emissions trading scheme. Furthermore, the committee notes that tradable certificate schemes are not the only policy option promising the benefits of markets.

2.122 The design of a national emissions trading scheme will not be finalised until the end of 2008. The place of complementary policies is being investigated as part of

109 Mr Brazier, *Submission 1*, p. 3.

110 Hydro Tasmania, *Submission 2*, p. 1.

the strategic review of climate change policies announced by the government which will look at the current array of energy efficiency schemes by July 2008. The committee would encourage the government to use these mechanisms to articulate the role of energy efficiency within the overall climate change strategy.

2.123 The committee is also concerned that the bill may overstate the capability of energy efficiency measures to reduce electricity prices. As noted, there are equity issues to be addressed, and the need for measures to ensure that low income households are not disadvantaged. The committee would encourage the government to investigate policy options in this area.

2.124 The committee notes that submissions called for the development of a national energy efficiency strategy. The committee urges the government to consider the development of a national energy efficiency strategy which would fit within an overall climate change response. It is important to ensure integrated and effective action and regulatory clarity for investors and industry.

2.125 In summary, while the committee commends the underlying assumptions in the bill, it does not agree that the bill should proceed. It points out the limitation of legislation which has not had the benefit of exhaustive consultation with industry stakeholders and energy experts. This process is currently underway in preparation for the government's legislation expected later in the year. But as a consciousness-raising initiative, the bill has considerable merit. The benefits of this inquiry include the opportunity given to committee members to understand the broad policy issues and administratively complex processes which climate change mitigation will require.

Recommendation

2.126 **The committee recommends that this bill not be passed.**

Chapter 3

Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008

Purpose of the bill

3.1 The purpose of the Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008 is to extend the renewable power percentage targets beyond those currently set out in the Renewable Energy (Electricity) Regulations 2001. While the proposed targets are in line with current government policy, proponents of the bill point out that the administrative process and timeframe announced in December 2007 mean that the targets will not be extended until 2010. The Democrats believe this could result in the renewable energy industry losing momentum and the capacity and continuity of the renewable energy industry put at risk.¹

3.2 The Mandatory Renewable Energy Target (MRET) scheme, which is underpinned by the regulations, is an additional and complementary policy to an Emissions Trading Scheme (ETS). It is argued that an ETS alone will not enhance renewable energy development. Accordingly, MRET has driven renewable energy investment, requiring electricity retailers and other large purchasers of electricity to collectively source an additional 9 500 gigawatt-hours (GWh) of electricity from renewable sources by 2010.²

3.3 The bill further argues that expanding the Mandatory Renewable Energy Target (MRET) from 2008 will create a stable investment environment for the continuing development of renewable energy industry, and that the proposed targets contained in this bill will deliver additional greenhouse emissions abatement of thirty million tonnes above 'business as usual' by 2010.³

Provisions of the bill

3.4 The amendments put forward in the bill propose to expand the target by increasing the renewable energy power percentages for the period commencing 1 January 2008 and ending 31 December 2020. The annual renewable energy power percentages and the corresponding GWh targets proposed by the bill are outlined in the following table.⁴

1 *Explanatory Memorandum*, p. 1.

2 Senator Allison, Second Reading Speech, *Senate Hansard*, 14 February 2008, p. 345.

3 *Explanatory Memorandum*, p. 1.

4 *Explanatory Memorandum*, p. 1.

Table 3.1 – Annual Renewable Energy Targets⁵

Year	Regulated REPP	GWh Target
2008	3.22%	7,300
2009	3.98%	9,300
2010	4.60%	11,000
2011	5.30%	13,000
2012	5.65%	16,500
2013	7.71%	20,000
2014	8.80%	23,500
2015	9.86%	27,000
2016	10.85%	30,500
2017	11.79%	34,000
2018	12.83%	37,500
2019	13.83%	41,000
2020	15.0%	45,000

Current regulations

3.5 The current annual renewable energy power percentage (REPP) targets in the Renewable Energy (Electricity) Regulations 2001 expire after 2008. In subsection 39 (1) of the regulations, the renewable power percentage for 2008 is 3.14 per cent.⁶ This is 0.8 per cent lower than the bill's proposed new target for 2008 of 3.22 per cent.

Government energy policy

3.6 The government's election promise on energy was to:

- set a target to reduce greenhouse gas emissions by 60 per cent by 2050;
- consult the energy sector on the implementation of a national emissions trading scheme – to start by 2010; and
- ensure the equivalent of at least 20 per cent of our electricity supply, or approximately 60 000 GWh, is generated from renewable sources by 2020

⁵ *Explanatory Memorandum*, p. 1; *Renewable Energy Legislation Amendment (Power Percentage) Bill 2008*, p. 2.

⁶ *Renewable Energy (Electricity) Regulations 2001*, para. 23.

through a national renewable energy target that rolls in all existing state-based targets.⁷

3.7 The government has committed to introducing emissions trading to enable the market to set a price on carbon, encourage innovation and cut emissions. The government contends that emissions trading will help bring renewable technologies into the market over time and that an interim renewable energy target will accelerate their use, driving cost reductions with economies of scale and achieving overall emission reductions at lower cost. As emissions trading matures the government believes that a renewable energy target will no longer be required.⁸

3.8 The Minister for Climate Change and Water, Senator the Hon. Penny Wong, has explained the need for a range of complementary measures to address climate change and reduce greenhouse gas emissions. These measures include an emissions trading scheme and renewable energy target. As the Minister has pointed out:

...you need a wide range of policy measures to effect the sort of change the government is seeking to implement, which will go forward for many years. So there are a number of measures. The principal ones for which I have responsibility are the introduction of emissions trading, which is a very significant step, and the renewable energy target, which is again a significant step... I indicated I would ask the department, in consultation with those they work with on these rather complex projections, to model ... our policies, including the 20 per cent renewable energy target which we have been discussing. I can indicate I anticipate releasing that information in the very near future.⁹

3.9 Modelling by McLennan Magasanik Associates (MMA) commissioned by the Renewable Energy Generators of Australia shows that the broader economic effects of a renewable energy target are minimal. Economic modelling by MMA shows that a 20 per cent renewable energy target operating alongside an emission trading scheme will:

- have a negligible effect on real GDP when compared to a carbon price alone;
- be achieved at a net present value cost of around \$600 million between 2003 and 2050 at a low carbon price and around \$200 million at a moderate carbon price. That is equivalent to an average total cost of \$10-30 for every person over almost 50 years; and

7 Senator Chris Evans, *Securing a Sustainable Energy Supply for Australia's Future*, Election 2007 policy document, p. 7.

8 Kevin Rudd MP and Peter Garrett MP, ALP Media Release, *Federal Labor's 20 Per Cent by 2020 Renewable Energy Target*, <http://www.alp.org.au/media/1007/msCClo0300.php>, 30 October 2007.

9 Senator the Hon. Penny Wong, *Additional Budget Estimates*, Senate Standing Committee on Finance and Public Administration, Senate Hansard, Friday 22 February 2008, pp 49–50.

- a 20 per cent renewable energy target will deliver emission reductions of 342 million tonnes of greenhouse gases between 2010 and 2030 compared to just 219 million tonnes over the same period with a 15 per cent clean energy target.¹⁰

3.10 The government's recent budget statements show it has provided the Office of the Renewable Energy Regulator with \$15.5 million over five years to administer the national Renewable Energy Target until the measure is phased out after 2020. In addition, through its 'Tackling Climate Change - Energy Innovation Fund' the government will expend \$150 million over four years on developing clean energy research and development capabilities in Australia. The government is also spending \$500 million over seven years in a 'Tackling Climate Change - National Clean Coal Fund' to establish and support a coordinated national strategy aimed at developing technologies that will achieve large scale reductions in greenhouse gas emissions from future coal power generation in Australia. Another \$500 million has been allocated over seven years for the 'Renewable Energy Fund' to develop and implement a range of renewable technologies in Australia.¹¹ The government aims to generate \$1.5 billion worth of investment in renewable energy technologies under the Renewable Energy Fund by encouraging the private sector to contribute \$2 for every \$1 provided by the government.¹²

Renewable Energy

3.11 Renewable energy sources which emit no greenhouse gases include hydro-electricity, wind, solar, biomass, geothermal and tidal and wave power.¹³ The following energy sources are eligible renewable energy sources as defined under the legislation pertaining to the *Renewable Energy (Electricity) Regulations 2001*:

- hydro;
- wave;
- tide;
- ocean;

10 Kevin Rudd MP and Peter Garrett MP, ALP media Release, *Federal Labor's 20 Per Cent by 2020 Renewable Energy Target*, <http://www.alp.org.au/media/1007/msCC100300.php>, 30 October 2007.

11 Budget 2008-09, Ministerial Statement, *Climate Change, the Economy, the Environment*, Chapter 4, http://www.aph.gov.au/budget/2008-09/content/ministerial_statements/html/climate_change-05.htm#P259_37068, accessed 14 May 2008.

12 Labor Fact Sheet, Renewable Energy Fund available at: http://www.alp.org.au/download/now/renewable_energy_factsheet_campaign_launch.pdf, accessed on 27 March 2008.

13 *Labor's 2020 target for a renewable energy future*, Election 2007 Policy Document, Kevin Rudd MP, Peter Garrett MP and Senator Chris Evans, October 2007, p. 4.

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- wind;
 - solar;
 - geothermal aquifer;
 - hot dry rock;
 - energy crops;
 - wood waste;
 - agricultural waste;
 - waste from processing of agricultural products;
 - food waste;
 - food processing waste;
 - bagasse;
 - black liquor;
 - biomass based components of municipal solid waste;
 - landfill gas;
 - sewage gas and biomass based components of sewage; and
 - any other energy source prescribed by the regulations.

The following energy sources are not eligible renewable energy sources:

- fossil fuels; and
- materials or waste products derived from fossil fuels.¹⁴

3.12 There are currently 590 operational renewable energy generators at various sites across the country. The generation technologies used by these generators include bagasse, landfill methane, solar, water, wind, sewage methane and other forms of renewable energy as described above.¹⁵ These renewable energy generators would need to increase over time to help offset the effects of increased demand for electricity due to population growth, as well as to meet the government's 2020 target for renewable energy. As Mr Matt Brazier pointed out during the inquiry:

According to ABARE projections, overall electricity consumption in Australia is forecast to grow by an average of approximately 2 percent per year over the next few decades.¹⁶

14 *Renewable Energy (Electricity) Regulations 2001.*

15 Australian Greenhouse Office, *Map of operating renewable energy generators in Australia*, <http://www.agso.gov.au/renewable/>, accessed 12 May 2008.

16 Mr Matt Brazier, *Submission 3*, p. 1.

3.13 Renewable energy currently accounts for less than five per cent of total energy consumption. The production of renewable energy is dominated by wood and woodwaste, bagasse (a waste product from sugar refining) and hydroelectricity (predominantly from Tasmania and the Snowy Mountains). Together these accounted for 92 per cent of renewable energy production in 2005-06. Biofuels, including landfill and sewage gas, as well as solar and wind energy, accounted for the remainder of renewable energy production.¹⁷

3.14 It is expected that the government's focus on renewable energy will result in a second wave of investment in wind power, despite the two year waiting list for turbines. Mr Paul Curnow, a partner at law firm Baker and McKenzie noted that when the MRET was introduced in 2001 there was a burst of investment which finished when it was clear that the government was not going to extend the scheme, and 'all the wind farms you see in Australia came out of that'.¹⁸

3.15 While supporting the proposal to extend the MRET targets, concerns were raised during the inquiry about the placement of new wind farms. Dr Andrew Lothian believes that:

...wind farms should not be located near Australia's coast because of its high scenic quality, and that there are many suitable inland areas where they could be located. I believe it is the government's role to balance the competing needs for renewable energy (which I strongly support) and the protection of Australia's high scenic quality coast and to guide wind farms to areas where the industry will gain viable winds but not at the expense of Australia's landscape.¹⁹

Mandatory Renewable Energy Target

3.16 The Mandatory Renewable Energy Target (MRET) commenced on 1 April 2001. The *Renewable Energy (Electricity) Act 2000* currently requires the generation of 9 500 GWh of extra renewable electricity per year by 2010, enough power to meet the residential electricity needs of four million people. The Office of the Renewable Energy Regulator (ORER) oversees the implementation of the measure.²⁰

3.17 To ensure the government achieves its goal of a 20 per cent share for renewable energy electricity supply by 2020 it will increase the MRET from 9 500 GWh to 45 000 GWh in 2020. The Department of Climate Change states that this measure will be phased out between 2020 and 2030 as emissions trading matures and

17 *Energy in Australia 2008*, Australian Government Department of Resources, Energy and Tourism, February 2008, p. 52.

18 Michael Pelly, 'Renewables get a second wind from Labor', *The Australian*, 7 April 2008, p. 31.

19 Dr Andrew Lothian, *Submission 2*, p. 2.

20 Department of Climate Change, *Mandatory Renewable Energy Target*, <http://www.greenhouse.gov.au/renewabletarget/legislation.html>, accessed 7 April 2008.

prices become sufficient to ensure that an MRET is no longer required to stimulate development of renewable generation technologies.²¹

3.18 The issue of phasing out MRET was raised during the committee hearings. Senator Eggleston sought a response to the view that mandatory renewable energy targets would become irrelevant as the emissions-trading scheme developed because it would include renewable energy.²² Mr Mark Lister of Szencorp responded that if an emissions trading scheme was working properly after a transition period then 'potentially the MRET or REC price should tend to zero'.²³

3.19 The Department estimates the breakdown of the 20 per cent target, assuming a projected electricity demand in 2020 of around 300 000 GWh, as follows:

- renewable energy from power stations existing prior to the introduction of Commonwealth or state and territory mandatory targets is expected to comprise around five per cent of electricity supply in 2020; and
- renewable energy under the new national legislated target of 45 000 GWh in 2020 will deliver the remaining 15 per cent.²⁴

3.20 At the Council of Australian Governments (COAG) meeting in December 2007, the Commonwealth and states agreed to work cooperatively, commencing early in 2008, to bring the existing MRET and the various state-based targets into a single, expanded national MRET scheme by early 2009. An implementation plan and interim report on progress was to be put to COAG at its March 2008 meeting. The final design is to be provided to COAG for consideration at its September 2008 meeting.²⁵

3.21 The Garnaut Climate Change Review Interim Report notes that the various MRETs are to be subsumed within a Commonwealth MRET requiring 20 per cent of electricity to be drawn from renewable sources by 2020. This review will examine in detail the interaction of the MRET with the proposed ETS and possible paths for phasing out the MRET as an ETS comes to provide sufficient incentives to meet its emissions targets.²⁶ Professor Garnaut has described the MRET function as doing 'much of the heavy lifting in the early years of an ETS'.²⁷

21 Department of Climate Change, *20% Renewable Energy Target*, <http://www.greenhouse.gov.au/renewabletarget/index.html>, accessed 7 April 2008.

22 Senator Eggleston, *Proof Hansard*, 12 May 2008, p. E4.

23 Mr Mark Lister, Szencorp Sustainable Development, *Proof Hansard*, 12 May 2008, p. E4

24 Senate Standing Committee on Finance and Public Administration, *Answer to Question on Notice*, Department of Climate Change, Hansard p. F & PA 38, CC11.

25 Department of Climate Change, *20% Renewable Energy Target*, <http://www.greenhouse.gov.au/renewabletarget/index.html>, accessed 7 April 2008.

26 *Garnaut Climate Change Review Interim Report To The Commonwealth, State and Territory Governments of Australia*, February 2008, p. 51.

27 Matthew Warren, 'Time to price carbon', *Weekend Australian*, 29 March 2008, p. 1.

3.22 The targets set by the MRET scheme are regarded by some in the industry as crucial in underpinning the renewable energy industry. As SOLCO explained:

The Commonwealth Mandated Renewable Energy Target (MRET) is about developing local capability and capacity so as to enable Australia to achieve this. The target level needs to be able to attract and retain capital. In today's global economy we compete internationally for capital and know-how across the renewable technologies. The target needs to be sufficient to underpin and expand local manufacturing, wholesale, retail and installations of solar photovoltaic (PV) systems. Otherwise, Australia will lose the majority of benefits (economic and environmental) that this booming global renewable industry offers.²⁸

How the MRET scheme works

3.23 The Mandatory Renewable Energy Target (MRET) scheme was implemented through the *Renewable Energy (Electricity) Act 2000* (the REEA). The REEA provides the legislative framework for the MRET. The act is supported by the *Renewable Energy (Electricity) Charge Act 2000* and the *Renewable Energy (Electricity) Regulations 2001*. The acts and regulations are administered by the Office of the Renewable Energy Regulator (ORER) which is a statutory agency in the Department of Climate Change which is part of the Prime Minister and Cabinet portfolio.²⁹

3.24 The REEA requires electricity retailers and other large buyers of electricity ('liable entities') to collectively source an additional 9 500 GWh per annum of electricity from renewable sources by 2010. This would increase the percentage of renewable energy used in electricity generation from 10.7 per cent in 2000 to 12.7 per cent by 2010. This two per cent target increase was later changed to 9 500 GWh to 'provide more certainty to the market'.³⁰

3.25 A key feature of the MRET scheme are renewable energy certificates (RECs) which are created by accredited power stations that generate power from renewable energy sources in excess of a 1997 'baseline' amount. One REC is created for every one megawatt-hour of renewable energy power generated in excess of the baseline. These RECs can be bought and sold.³¹

28 SOLCO, *Submission 6*, p. 1.

29 Office of the Renewable Energy regulator, Fact Sheet Mandatory renewable Energy Target Overview Version 2 as updated in February 2008 available at <http://www.orer.gov.au/publications/pubs/mret-overview-feb08.pdf> accessed on 26 March 2008.

30 Department of Parliamentary Library, Bills Digest No. 109 2005-06, *Renewable Energy (Electricity) Amendment Bill 2006*, 27 March 2006, p. 3.

31 Department of Parliamentary Library, Bills Digest No. 109 2005-06, *Renewable Energy (Electricity) Amendment Bill 2006*, 27 March 2006, p. 3.

3.26 The MRET applies nationally, with the majority of electricity retailers and wholesale electricity buyers on liable grids in all states and territories contributing proportionately to increase renewable energy sources. As noted in the MRET fact sheet:

MRET operates by imposing a legal liability to support renewable energy electricity generation on, generally, large wholesale purchases of electricity. An example of a liable party under the legislation would be an electricity retailer acquiring wholesale electricity to meet retail sale obligations to customers (acquisition of electricity). The liable parties are directly responsible for supporting an increase in the amount of electricity generated from renewable energy sources, which is implemented through the surrender of renewable energy certificates (RECs) in proportion to their acquisitions of electricity. Each REC represents one megawatt hour (MWh) of eligible renewable electricity.³²

3.27 The REEA requires liable entities to surrender to the Renewable Energy Regulator sufficient RECs to cover their required purchases of electricity generated from renewable sources or otherwise pay a shortfall charge. The number of RECs required to avoid the shortfall charge is calculated as a percentage of electricity purchased, and this has been progressively increased. In 2006, the renewable power percentage (RPP) was 2.17 per cent.

3.28 For instance, if an electricity retailer bought 100 000 megawatt-hours of electricity in 2006, it must have surrendered 2 170 RECs. Liable entities will generally acquire the RECs by purchasing them. If liable entities do not surrender sufficient RECs, the shortfall charge is \$40 per megawatt-hour. Thus if the firm in the previous example surrendered only 1 170 RECs for its 2006 purchases, it would have been liable for a charge of \$40 000.³³

Report of the MRET Review Panel

3.29 In 2003, a review panel was commissioned to look at the progress of the MRET scheme. Although the report is now a few years old, some of the information is still relevant, especially in relation to the continuing socioeconomic effects.

3.30 The review found that while the development of a commercially competitive renewable energy industry may have longer term benefits for the national economy, the MRET would operate at a cost.³⁴ Table 3.2 below shows the predicted economic consequences up to the year 2020.

32 Office of the Renewable Energy regulator, Fact Sheet Mandatory renewable Energy Target Overview Version 2 as updated in February 2008 accessed at <http://www.orer.gov.au/publications/pubs/mret-overview-feb08.pdf> on 26 March 2008.

33 Department of Parliamentary Library, Bills Digest No. 109 2005-06, *Renewable Energy (Electricity) Amendment Bill 2006*, 27 March 2006, p. 3.

34 A Review of the Operation of the Renewable Energy (Electricity) Act 2000, *Renewable Opportunities Wider Impacts of the MRET Measure*, Chapter 3, G. Tambling, 2003, p. 32.

Table 3.2—Predicted economic effects of MRET (2003 to 2020)³⁵

	2003-2007	2008-2012	2013-2020
Average electricity price impact to end-users (\$/MWh)	0.97	1.44	1.23
Investment (\$M)	3,690	30	50
Employment—renewable generation (average additional employment per annum)	1900	3100	2500
Employment—fossil fuel generation (average additional employment per annum)	-500	-400	-300
Employment—economy wide (average annual FTE)	-200	-1000	-1000
GDP (\$M average per annum)	-38	-260	-325

3.31 The review found that MRET is an implicit subsidy to the renewable energy industry because it transfers financial benefits to the renewable energy industry at the expense of retailers and energy users. Each year, energy retailers and other liable parties are required to surrender RECs obtained at a cost which is passed on to energy users. Costs may be reduced as a consequence of national energy reforms or by efficiency improvements, although this will not prevent the likelihood of increased electricity prices.³⁶

3.32 The review also recommended that the timeframe for the MRET scheme be extended from 2010 to 2020 and that a target for electricity generation for renewable sources be set for 2020 at 20 000 GWh.³⁷ The government has committed to over double this recommendation, setting a renewable energy target of 20 per cent or 45 000 GWh by 2020.

35 A Review of the Operation of the Renewable Energy (Electricity) Act 2000, *Renewable Opportunities Wider Impacts of the MRET Measure*, Chapter 3, G. Tambling, 2003, p. 33

36 A Review of the Operation of the Renewable Energy (Electricity) Act 2000, *Renewable Opportunities Wider Impacts of the MRET Measure*, Chapter 3, G. Tambling, 2003, p. 34.

37 Department of Parliamentary Library, Bills Digest No. 109 2005-06, *Renewable Energy (Electricity) Amendment Bill 2006*, 27 March 2006, p. 5.

3.33 The Department explained that the 45 000 GWh delivered through MRET would not be the only measure aiming at a 20 per cent renewable energy target. That target will include the effects of the 'emissions trading scheme on renewables or other measures that the government may choose to take between now and 2020'.³⁸

Alternative measures to MRET

3.34 In his submission to the inquiry, Mr Kevin Cox argued that an alternative measure to increasing MRET targets would be to implement a system providing a 'financial benefit for clean energy generation through the provision of rewards for low consumption of polluting energy'. In other words, consumers who made the least demand on the environment should be rewarded for their restraint.³⁹

3.35 Mr Cox pointed out that this could be achieved through:

- placing a surcharge on the price of all energy generation in proportion to the greenhouse emissions created when the energy is produced;
- distributing the money collected from the surcharge as rewards to all consumers in inverse proportion to their net greenhouse emissions from their mains energy consumption; and
- requiring rewards to be spent on approved ways to reduce greenhouse emissions. Existing installations of renewable energy systems can qualify as approved ways.⁴⁰

3.36 Mr Cox argued the approach was equitable because it rewarded those who had already installed systems, those who consumed less energy, and those who invested in ways to reduce greenhouse gas emissions. It also encouraged clean community schemes by enabling investment in neighbourhood feed-in systems and 'to offset their household energy use against their share of the community energy produced'.⁴¹

Current state and territory schemes

3.37 State governments have introduced or are proposing to introduce their own renewable energy targets:

- Victoria has a legislated target of 10 per cent renewable energy by 2016;
- New South Wales has committed to a legislated 15 per cent renewable energy target by 2020;

38 Mr Blair Comley, Deputy Secretary, Department of Climate Change, *Additional Budget Estimates*, Senate Standing Committee on Finance and Public Administration, Friday 22 February 2008, p. 54.

39 Mr Kevin Cox, *Submission 1*, p. 2

40 Mr Kevin Cox, *Submission 1*, p. 2

41 Mr Kevin Cox, *Submission 1*, p. 2.

- South Australia has announced a target of increasing renewable energy electricity use to 20 per cent of electricity consumption by 2014;
- Queensland has announced a low emission target of 10 per cent by 2020;
- the ACT has announced a 15 per cent renewable energy target by 2020; and
- Western Australia is reviewing a proposed 15 per cent renewable energy target.⁴²

Towards a national renewable energy scheme

3.38 The government notes that having a number of different schemes comes at a cost and increases red tape. At the COAG meetings in December 2007 and March 2008, the Commonwealth and states agreed to work cooperatively to bring the existing MRET and the various state-based targets into a single, expanded national MRET scheme by early 2009. This would provide consistency for investors looking to support the renewable energy industry.

3.39 In February 2008 the Minister for Climate Change and Water announced that a working group established through COAG would implement a national 20 per cent renewable energy target, with design work to be finalised by September, and with legislation introduced early 2009.⁴³ Implementation in 2010 would provide sufficient time for negotiations to bring the states in line with the Commonwealth scheme.⁴⁴

3.40 As the Secretary of the Department pointed out:

...the Commonwealth could step in and do this very quickly, but it would need to do a covering-the field legislative approach, which is not going to be warmly welcomed as a sign of cooperation. So we have to work with the states to develop an approach which everybody is going to be happy with. If you think about Queensland, for example, it is not just the RET but also the gas target. Are we going to roll the gas target into the RET? One would not have thought so, but then how does Queensland manage the fact that you have got a RET and the gas target sitting next to one another? How do those things get worked through? How do you treat firms that are in the process of seeking eligibility approval in existing state schemes?

I will be very careful here. It is not out of the question that a particular state could say, 'Yes, we are very happy to have a national renewable energy target as long as exactly the same amount of renewable energy is created in our state as would have been under our previous state-based policy.' If that is the case, you do not need a national renewable target. The whole reason

42 Election 2007 Policy Document, Kevin Rudd MP, Peter Garrett MP and Senator Chris Evans, *Labor's 2020 target for a renewable energy future*, October 2007, p. 14.

43 Senator the Hon Penny Wong, Speech to the Australian Industry Group Luncheon, 6 February 2008, *'Climate Change: A Responsibility Agenda'*, p. 10.

44 *Additional Budget Estimates*, Senate Standing Committee on Finance and Public Administration, Friday 22 February 2008, p. 51.

for having a national renewable target is so that you are actually able to get some coherence into the whole approach and you are generating using technologies that work well in the places that they are most suited to.⁴⁵

3.41 The government is also committed to initiatives set out in the 2008–09 budget, including encouraging its agencies in the Australian Capital Territory to source ten per cent of their electricity use from renewable energy. Around 50 agencies have already signed up to this agreement, including the Department of the Environment, Water, Heritage and the Arts which is purchasing 100 per cent green power.⁴⁶

Feed in tariffs

3.42 A feed in tariff is an incentive structure provided under legislation to place a legal obligation on utilities to purchase renewable electricity from renewable sources (such as solar photovoltaics, wind power, biomass and geothermal power) at above market rates. This higher price covers the cost disadvantages of adopting renewable energy sources with the rate determined by the method of power generation.⁴⁷

3.43 At the March 2008 meeting, COAG also agreed to consider options for a harmonised approach to renewable energy feed in tariffs in October 2008.⁴⁸ The government has recognised that a number of state and territory governments want to introduce solar feed in tariffs where 'solar photovoltaic installations receive a premium price for electricity produced, which is then fed back into the grid'.⁴⁹ Because the government wishes to achieve a consolidated and consistent approach across all states to renewable energy policy, it will be working through COAG to develop a consistent national approach to feed in tariffs.

3.44 Not everyone supports the idea of feed in tariffs for renewable energy use. In his submission to the inquiry Kevin Cox argued that:

The concept of a FIT that gives a high price for renewable energy input into the grid is superficially attractive. It is more appealing than schemes to

45 Dr Martin Parkinson, Secretary, Department of Climate Change, *Additional Budget Estimates*, Senate Standing Committee on Finance and Public Administration, Friday 22 February 2008, p. 52.

46 Budget 2008-09, Ministerial Statement, *Climate Change, the Economy, the Environment*, Chapter 4, http://www.aph.gov.au/budget/2008-09/content/ministerial_statements/html/climate_change-05.htm#P259_37068, accessed 14 May 2008.

47 Information available at: http://en.wikipedia.org/wiki/Feed-in_Tariff, accessed on 10 April 2008.

48 COAG meeting outcomes available at <http://www.coag.gov.au/meetings/260308/index.htm> accessed on 27 March 2008.

49 *Labor's 2020 target for a renewable energy future*, Election 2007 Policy Document, Kevin Rudd MP, Peter Garrett MP and Senator Chris Evans, October 2007, p. 16.

trade carbon or emissions permits because it channels price increases to renewable energy infrastructure. Unfortunately it does not direct investment to the most efficient and effective investment in ways to reduce greenhouse gases.⁵⁰

Support for the bill

3.45 A number of witnesses to the inquiry stressed the importance of bringing forward the implementation of extended targets for renewable energy via the bill. SOLCO pointed out that commencing the extended target from 2008 would 'create certainty and a stable investment environment for the ongoing development of renewable energy industry.' They argued that waiting until 2010 could 'cause the renewable energy industry in Australia to stall' leading to reduction in skilled people working in the industry and 'stalled investment in people, skills, technology and market development'.⁵¹

3.46 Supporters of the proposed legislation argued that the bill simply put into operation already existing policy aims. Mr Justin Wood pointed out to the committee that:

The MRET instrument already exists, it already serves a clear and effective function in achieving these aims, and its expansion to 45,000 GWh/year by 2020 has already been committed to. All that is required are the legislative amendments — as proposed by the Bill in question — to bring the above policy aims into operational reality, starting as soon as possible in 2008, not sometime in 2010.⁵²

3.47 Conergy argued that existing MRET policy had already seen a reduction in greenhouse gases as well as increasing investment in renewable energy infrastructure. Therefore, expanding the target from 2008 was necessary to ensure the continuation of the industry, and:

If the target is not expanded until 2010 then a return to 2003 figures may prevail as the industry will be impacted by:

- increased pricing to the end user;
- decreased investment in renewable energy manufacturing; and
- no continuation of focus on solar energy and as such the momentum with builders decreases.⁵³

3.48 Similarly, Mr Kevin Cox argued that bringing forward the target would encourage the renewable energy industry, provide surety to the solar water heating

50 Kevin Cox, *Submission 1*, p. 1.

51 SOLCO, *Submission 6*, p. 1.

52 Mr Justin Wood, *Submission 7*, p. 5.

53 Conergy Pty Limited, *Submission 9*, p. 1.

industry, 'promote local manufacture and investment through ability to plan, deliver an earlier outcome to emissions reductions before the ETS, and add stimulus for new renewable energy technology development'.⁵⁴

3.49 During the hearings Senator Allison asked the Clean Energy Council what they thought the effect of bringing forward the MRET to 2008 would be and what sort of benefits might accrue to the sector by gaining an extra 18 months or so. Mr Robert Jackson responded:

At the moment, there is a large degree of uncertainty among my members out there who are trying to build projects. There are projects with planning approvals waiting to go, which at the moment cannot be justified internally within their businesses until we have some certainty on exactly what is going to come out in the legislation, as the election promises get turned into reality. The earlier that starts, the earlier we can start to deliver those projects. There is also uncertainty out in the marketplace with the current Victorian scheme and what that means—whether you can build against that scheme rather than MRET, or how that scheme would be transitioned into MRET. There are issues to do with the uncertainty around that, so anything that assists in overcoming some of those areas of uncertainty would be of great value to the production of these projects.⁵⁵

3.50 Greenbank Australia also supported bringing forward the extended targets proposed by the bill in order to stimulate industry development. Mr John Wayland pointed out to the committee that delaying the bill would mean 'there will not be investment, there will not be critical mass, they will not have built it up and it will be another two years behind if you attract investment into it again'.⁵⁶

3.51 Senator Bushby canvassed Greenbank Australia's position on waiting to extend MRET until the Garnaut inquiry had been completed and an ETS had been formulated. Mr Fiona O'Hehir responded that the renewable energy target was needed now 'to foster and grow our renewable energy industry so that, when we get to 2020, it will be running in parallel with the emissions trading scheme'. She explained that:

by then, hopefully, clean coal—truly clean, if there is such a thing—and renewable and clean energy will be on a par and so will be able to compete in the marketplace. But currently with renewable energy—with the installing of the product, with the question of what is going to be the next new energy source, with biomass—there are huge numbers of innovating technologies to be developed because we cannot just rely on one source. That is why this bill is so important. If we do not get the support going forward, we cannot help to meet our commitments in 2020.⁵⁷

54 Greenbank Australia Pty Ltd, *Submission 4*, pp 1–2.

55 Mr Robert Jackson, Clean Energy Council, *Proof Hansard*, 12 May 2008, p. E34.

56 Mr John Wayland, Greenbank Australia Pty Ltd, *Proof Hansard*, 12 May 2008, p. E31.

57 Ms Fiona O'Hehir, Greenbank Australia Pty Ltd, *Proof Hansard*, 12 May 2008, p. E26.

3.52 As Greenbank Australia argued in their submission, the expansion of the MRET needed to begin in 2008 to create a 'stable investment environment for industry to grow'. Their submission stated:

The Renewable Energy industry has an expectation that the state based schemes will be immediately morphed into the federal 20% target using the existing MRET eligibility criteria. Historically Solar Water Heating has made up 20% of the RECs created and must remain rewarded through these environmental instruments for us to achieve these ambitious new targets... Large projects take years in the pipeline, due to planning, public consultation, environmental impact statements and approvals. Industry desperately needs evidence based policy to give stability particularly as we move to an ETS which will have far reaching, somewhat unknown and sometimes perverse affects and outcomes.⁵⁸

3.53 Doctors for the Environment (DEA) Australia were also keen to support the bill, expressing concerns about climate change on human health and wellbeing. DEA supported the government's goal of achieving 20 per cent renewable energy by 2020 and commended the bill's aim to 'accelerate the implementation of the government's renewable energy commitment, so action commences in 2008 rather than 2010'. They also suggested to the committee that the fixed life of MRET to 2020 might act as a deterrent to renewable energy investment and suggested removing the 2020 completion date for the scheme.⁵⁹

Concerns about the bill

3.54 The inquiry generated concerned responses from a number of witnesses about the effects the bill would have if implemented. One of the main concerns raised was in relation to the disadvantages of amending the MRET scheme prior to knowing the details of the future ETS. As Mr Rob Young from ExxonMobil explained to the committee:

I would acknowledge that the bill is a genuine attempt to create greater certainty and continuity for those companies that will need to supply or meet the MRET. However, when building stable regulatory frameworks, we believe that it is important that policies not be considered in isolation and that unintended consequences are considered. As such, our more fundamental concern is that setting a mandated target for any particular source of energy is inconsistent with pursuing the development of an emissions trading scheme.⁶⁰

3.55 Dr Brian Fisher, speaking in a private capacity at the hearings, told the committee that MRET could work only in the case of electricity, while an ETS

58 Greenbank Australia Pty Ltd, *Submission 4*, p. 1

59 Doctors for the Environment, *Submission 5*, pp 1–2.

60 Mr Rob Young, ExxonMobil, *Proof Hansard*, 12 May 2008, p. E10.

potentially delivered emissions reductions across the wider economy for those sectors included in the scheme. Dr Fisher argued that:

...instead of just highlighting electricity as a means of reducing emissions, highlight the entire economy and therefore it must be cheaper to reduce a given amount of emissions from the entire economy than from one sector alone. That is simply what this study says—basically the broader the coverage, the cheaper the cost.⁶¹

3.56 As well as waiting for the outcome of an ETS there was also support shown for bringing the state and territory schemes into line with future policy in the renewable energy area. ExxonMobil recommended that policy makers ensured that 'existing and proposed policy settings are consistent with the future development of an ETS' and that the current array of energy and fiscal policies at the state and Commonwealth level would undermine the efficacy of any carbon price signal and could be 'a dead weight loss on the Australian economy'.⁶² This highlights the need to wait for the outcome of the COAG deliberations with the states and territories on any future Commonwealth renewable energy scheme.

3.57 Senator Webber queried Dr Fisher during the hearings about what the unintended consequences might be of changing the MRET prior to establishing the ETS. Dr Fisher responded that care needed to be taken with any regulatory arrangements before the ETS was designed and implemented. He agreed with the Senator that the 'ETS is going to be one of the most fundamental pieces of economic policy that has happened in this country for a very, very long time and perhaps ever' and that the way other policies interacted with it was 'going to be crucial to its efficiency'. Dr Fisher stated:

For my money, I would rather see us put as much effort as possible into getting the emissions trading scheme right and then look at what other complementary policies we need after that, rather than get the process around the other way.⁶³

3.58 Waiting for the ETS to be established was not the only issue of concern raised during the inquiry. One submission suggested that the bill would not be highly effective simply due to the growth in consumption rates as population increased. Mr Matt Brazier argued:

The problem of electricity-related GHG emissions is dominated by ongoing consumption growth. The proposed renewable energy power percentage changes: would not reduce greenhouse gas emissions; would defer generation/consumption rates by approximately six years. Clearly the underlying objective of the bill is environmental protection. The aim is presumably to attempt to avert undesirable future consequences of

61 Dr Brian Fisher, Private Capacity, *Proof Hansard*, 12 May 2008, p. E11

62 ExxonMobil, *Submission 8*, p. 2.

63 Dr Brian Fisher, Private Capacity, *Proof Hansard*, 12 May 2008, pp E13-14.

energy-related emissions. If this is the case then the effect of the proposed changes is merely to make a relatively small change to the timing of when these consequences will occur. While laudable, the question may well be asked if it would be worth the effort... the problem faced by society is not insufficient renewable energy; the problem is ongoing consumption growth. Renewable energy percentage targets cannot compete with modest ongoing consumption growth.⁶⁴

3.59 Another issue of concern raised during the inquiry was that modelling by Access Economics and CRA showed that a mandatory renewable energy target was seen as 'less efficient at achieving a given environmental outcomes' because it forced higher cost renewable energy to be used for electricity generation 'at the expense of exploiting lower cost emissions abatement opportunities elsewhere in the economy'.⁶⁵ ExxonMobil's submission claimed:

In summary to reach an emissions abatement target of 67 Mt CO₂e in 2020, the modelling shows that the combined ETS + 20 per cent renewable energy target policy:

- costs Australia \$1.8 billion more in 2020 than a pure ETS policy in terms of economic welfare (GNP) losses;
- costs Australia \$1.5 billion more in 2020 than the ETS output (GDP) losses;
- results in the loss of 3 600 full time equivalent jobs (FTE) in 2020;
- causes substantial switching away from gas fired generation compared with an ETS in the order of 12.6 TWh per year by 2020;
- results in electricity prices rising by 6 per cent more than would be the case than under an ETS alone – the price rises 24 per cent under the combined policy approach, and by 18 per cent under an ETS that delivers an equivalent emissions abatement.⁶⁶

3.60 While it generally supported the bill, the Clean Energy Council did not necessarily agree with the methodology for extending MRET. They suggested that the 'trajectory target which is in the main bill could be modified'. Mr Jackson argued that:

There are some words that could be modified to change the end date beyond 2020, out to 2035, again in line with the promises. We would also suggest that we would possibly need to revisit the penalty price and increase that to take account of some of the increases in the costs of technology or of buying the plant. Around the world at the moment there are shortages that have, at least in the short term, driven some price rises.⁶⁷

64 Mr Matt Brazier, *Submission 3*, pp 2–3.

65 ExxonMobil, *Submission 8*, p. 4.

66 ExxonMobil, *Submission 8*, p. 3.

67 Mr Robert Jackson, Clean Energy Council, *Proof Hansard*, 12 May 2008, p. E32.

3.61 The Department of Climate Change, while generally supporting the intent and direction of the bill in line with government policy, pointed out that successful integration of the current MRET with existing and planned state and territory schemes required resolving differences in approach between those schemes. The profile of annual targets proposed by the bill was only one of the elements that needed to be considered in designing a successful MRET scheme. Overall design would 'be informed by consultations with a wide range of relevant stakeholders, and by expert modelling and analysis of design options'.⁶⁸

3.62 The Department also advised the committee that it recognised the importance of maintaining investor confidence during the design period, were striving towards a timely resolution for designing the scheme, and expected amendments to the current MRET legislation to be in place by mid-2009. The Department informed the committee that the government had committed to ensuring that any projects already accredited under existing state schemes would be eligible under the new national scheme in order to further assist in maintaining investor confidence.⁶⁹

Committee view

3.63 While the committee notes various submitters' concerns about the effects of delaying the implementation of an extended MRET until 2010, the committee agrees that it is premature to extend the scheme until the details of the emissions trading scheme are released. The committee notes that the Department of Climate Change has outlined five steps for an emissions trading scheme (ETS), the third step being that an effective emissions trading scheme needs to:

- be economically responsible;
- provide the right incentives to drive investment in low emission technologies and renewable energy while keeping the total cost as low as possible;
- not undermine the country's competitiveness and provide mechanisms to ensure that operations of energy-intensive trade-exposed firms are not disadvantaged; and
- be complemented by measures like a Mandatory Renewable Energy Target to encourage the domestic development and use of new technologies.⁷⁰

3.64 Therefore, the committee is mindful that the Department is taking renewable energy schemes into account in its formulation of an ETS, and the extended targets proposed by this bill may be inconsistent with those that might be implemented under an ETS. A number of submitters to the inquiry agreed that industry required certainty, including those who supported the bill. In that sense the committee considers it

68 Department of Climate Change, *Submission 11*, p. 2.

69 Department of Climate Change, *Submission 11*, p. 2.

70 Department of Climate Change, *About the ETS*, <http://www.greenhouse.gov.au/emissionstrading/about.html>, accessed 8 May 2008.

disruptive to industry to introduce the percentage targets proposed by the bill if they then need to be altered again once the ETS is formulated.

3.65 The committee also notes the work being done through COAG to bring the states and territories into a unified commonwealth scheme, and considers that these negotiations need to be finalised before the MRET scheme is amended.

Conclusion

3.66 As the MRET scheme is strongly linked to the proposed ETS, it is premature to amend the renewable energy power percentages without having regard to the wider implications of any pre-ETS alterations. The intent of the bill in promoting renewable energy use is not the main issue of concern of the committee, as this is in line with the government's policy to increase renewable energy use by 2020. Therefore, the committee agrees in general with the intentions of the bill.

3.67 In addition, amending the existing MRET scheme when the government has yet to release details of the emissions trading scheme and related renewable energy schemes is not an optimum approach. To do so could impose obligations on industry, consumers and other stakeholders that may be inconsistent with any aspects of the scheme relating to and promoting the use of renewable energy.

Recommendation

3.68 As an emissions trading scheme and its implementation mechanisms have yet to be finalised, the committee recommends this bill not be passed.

Senator Annette Hurley

Chair

Additional Comments by Coalition Senators

Coalition Senators agree with this report's recommendations and whilst acknowledging the positives of these bills as outlined in the report, we are of the view that until the development of the Emissions Trading Scheme is completed, the introduction of these bills would result in unnecessary confusion.

Coalition Senators agree that the climate is changing and accept this may be the result of human activity, but also acknowledge debate on other possible causes, which include, inter alia, greenhouse emissions, changes in the orbit of the Earth, and sun spot activity, and we note that cyclical climate change has been an ongoing feature of history of the planet.

In relation to comments made in paragraphs 1.9 to 1.16 in regard to the Howard Government's record on climate change, Coalition Senators believe the Coalition Government took a leadership role on Climate Change and any view that early interest was not sustained completely ignores the plethora of positive outcomes achieved through the highly active Australian Greenhouse Office and other relevant agencies.

The Coalition Government's strong leadership role on the challenges of Climate Changes occurred on a national and international level with investments of \$2 billion in climate change programs. They included hundreds of millions of dollars on solar and wind energy, developing of new technology to make cleaner and more efficient fossil fuels and ways to capture and store greenhouse gases to stop them going into the atmosphere. For example:

- The \$500 million Low Emissions Technology Demonstration Fund, which aimed at leveraging \$1 billion from industry to develop technologies to significantly reduce greenhouse gas emissions.
- The \$100 million Renewable Energy Development Initiative, which provided competitive grants to support the strategic development of renewable energy technologies.

During the leadership of the Howard Government, Australia could proudly say it was one of the few countries that were on track to reach its internationally agreed target for greenhouse gas emissions. Australia's record proved to the international community that there was a way forward that allowed for emission cuts and economic growth. During its term in office, Coalition climate change strategies saw Australia forecast to save 85 million tonnes of greenhouse gas emissions a year by 2010, while the economy was expected to almost double.

These savings were the equivalent of taking every one of Australia's 14 million cars, trucks and buses off the road – and stopping all rail, air and shipping activity – while still providing for major economic growth.

Even with such achievements the Coalition government continued to take seriously the issues of climate change and its role in reducing the global greenhouse signature.

Under the Coalition, Australia was a joint signatory in the first global agreement between the United States, China, India, Japan and the Republic of Korea – the Asia Pacific Partnership on Clean Development and Climate – where member countries worked together to use technological solutions to bring about the dramatic cuts to greenhouse gas emissions that the world needs to tackle climate change. Coalition Senators would like to express their regret that the Labor Government has axed funding to this valuable program.

Within the relevant areas of renewable energy, the Coalition also displayed strong leadership with the Mandatory Renewable Energy Target Scheme as discussed in this report. This leading policy from the Coalition Government has, in no small part, helped contribute to the growth and development of Australia's current renewable energy market.

Coalition Senators are also of the opinion that consideration should be given to extending the MRET to include all clean energy technologies. In essence the MRET should encourage the development of all low emission energy production markets in Australia equally, with the ultimate aim of reducing Australia's overall emission levels. Australia's current energy mix means that the positive effects of MRET are restricted to a relatively small portion of the energy market. Clean energy production technologies deal with the fossil fuel energy sources that currently make up the largest portion of Australia's energy mix. Clean energy technology's aim at producing energy with low emissions which result in the same outcome achieved by renewable energy, albeit from a finite resource. Including clean energy technologies into the MRET would extend the incentives for low emission energy production to a far greater portion of Australia's energy mix consequently delivering far more of the MRET's desired reduction in emissions.

Senator Dr Alan Eggleston
Deputy Chair

Australian Democrats

Dissenting Report

The Australian Democrats disagree with the conclusion of the majority report that action on expanding the existing Mandatory Renewable Energy Target (MRET) and proceeding with an energy efficiency trading scheme is premature and must wait until after the establishment of an Emissions Trading Scheme (ETS), viz:

As the MRET scheme is strongly linked to the proposed ETS, it is premature to amend the renewable energy power percentages without having regard to the wider implications of any pre-ETS alterations.

MRET Policy as Industry Support

The report and the logic supporting the conclusion does not acknowledge the fact that the MRET scheme has been oversubscribed since 2006 nor the fact that the Howard Government's original policy objective of increasing the overall proportion of renewable energy in Australia's electricity generation effort by 2 per cent was not met. (This policy failure was due to the conversion of the target to a set number of GWh (9,500) that was based on a gross underestimation of growth in electricity demand.) Since MRET commenced the proportion of electricity generated by renewables has in fact dropped.

Other renewable energy policy initiatives have been insufficient to drive new investment in renewable energy and as a result, it has now stalled. This makes no sense when the task of reducing emissions is both urgent and substantial.

The report's conclusion does not recognise the significance of state based energy efficiency trading and renewable energy trading schemes and targets or the fact that they were initiated because of Federal government inaction in this area. Neither does it acknowledge requests from industry for national consistency.

The objective of this Bill is to bring forward to 2008 the start up of the Rudd Government's election commitment to expand the MRET target from 2010. We consider this to be necessary to avoid the further erosion of the renewable energy industry's capacity and ongoing viability.

Policy stability and therefore investment stability through a continued access to a renewable energy market is crucial for a robust and competitive renewable energy industry.

Interaction between MRET, Energy Efficiency and Emissions Trading Scheme

The committee considered the two separate but related bills together and examined their interaction with an ETS.

However, little evidence was advanced in support of the majority report conclusion that these measures cannot be adopted ahead of an ETS. Whilst some witnesses argued that this was the case, others said MRET and energy efficiency trading were complementary to an ETS but beyond its scope.

The Democrats consider the least cost path to reducing greenhouse emissions to be aggressive energy efficiency, a significant shift to renewable energy and strategic use of fossil fuel. The evidence presented to the inquiry supports this position.

In answer to questions, Professor Alan Pears explained:

Senator ALLISON—What has been said several times today is that you cannot embark on something like an energy efficiency trading system outside the process of emissions trading. Do you have a comment to make about that? Should we just wait until 2010, when we have got an overall program?

Prof. Pears—No, I completely disagree with that. Just as we ran MRET from 2001 without an emissions trading scheme, you could run an energy efficiency trading scheme completely separately from emissions trading. Or as a government or a parliament you could introduce the energy efficiency trading scheme and then, from 2010 or whatever, you could say that efficiency trading certificates interacted with the emissions trading scheme in these ways. So I do not see any problem at all. MRET is the example of running a scheme, and I think they are dealing with the issues of MRET and emissions trading.

Senator ALLISON—People talk about the necessity for them to be complementary. You have briefly gone into that. Maybe you could explore that a bit more for the committee.

Prof. Pears—The issue is that there will be some kind of threshold above which organisations participate in emissions trading. So a logical thing to me is to focus an energy efficiency trading scheme on the non-ETS sectors, which is really what, as I understand it, they are doing in the British scheme. The value of that is that the non-ETS sectors are essentially only seeing a flow-on price effect from emissions trading. So, for example, a power station or a large industry is actively engaged in emissions trading. They are seeing the costs and benefits of options and presumably making judgements. If I am an electricity consumer—a small to medium electricity consumer—what will happen is that my energy retailer will buy electricity from a power station and the power station will pass through some carbon price costs and then the retailer will pass those costs through to me, presumably with a profit margin, and then we might add in the GST as well—I do not know. So we are just going to see price effects on energy and on goods and services for the bulk of the economy and a large proportion of the emissions from the economy.

Senator ALLISON—Can I just interrupt there. So you are saying that from emissions trading all we will get as a driver for efficiency is a slightly increased cost for generation?

Prof. Pears—Exactly. We will see a small increase in energy costs or the energy component of goods and services that we buy. The evidence is that the scale of the price signals will not do very much to change people’s behaviour. Some work in the US recently showed that in the residential and commercial sectors a doubling in energy prices might reduce energy consumption by 15 or 20 per cent. A doubling in electricity prices for those sectors would be equivalent to a carbon price of \$150 or so a tonne. I do not think \$150 a tonne is politically very viable for an emissions-trading scheme, but also \$150 a tonne was giving you only a 20 per cent or so reduction. You were not even capturing anything like the full energy efficiency potential using that price signal to drive people’s behaviour.

I presented a talk last week where I showed that the effect of an increase in petrol prices due to a carbon price of \$25 a tonne would really be only a few dollars a week. When the cost for a new car buyer of running a car is in the hundreds of dollars a week, this is noise. If we want the non-emissions-trading sector to be actively engaged in energy efficiency, we need a more powerful program or strategy than just relying on the flow-on effects from emissions trading.

An ETS will result in only marginal investment in renewable energy and energy efficiency because it will change the relative costs of electricity generation based on greenhouse emissions intensity. Renewable energy will not be considered as an offset and must compete with other low emissions technologies such as gas.

MRET already exists and was introduced with the objectives of supporting growth in the emerging renewable energy industry as well as greenhouse abatement. The ETS will not be a replacement or substitute for MRET.

Cost Impacts

The preliminary modelling indicates that an ETS may result in a real increase in energy household bills of between \$20 and \$40 per annum on average over the 2010-20 period and between \$30 and \$55 per year over the 2021-30 period.

As wholesale prices increase, the competitiveness of renewable energy improves and the level of support required through MRET is reduced because the cost of the scheme is lower.

Taking action to improve the energy efficiency of the economy has the benefit of reducing energy demand and, therefore, offsetting the energy price rise due to MRET and the ETS. Professor Pears told the committee:

..there is almost universal agreement that we need a more effective driver to capture energy efficiency potential in Australia. There is such a powerful case that we are failing to capture the least cost solutions, not just for climate change but also to avoid unnecessary investment in energy supply infrastructure and so on. I guess that raises the point that energy efficiency is not just a climate change mitigation measure; it actually offers multiple benefits, such as avoiding unnecessary investment in energy supply capacity, improving productivity and facilitating innovation.

In the context of emissions trading, ... for a given emissions trading cap, energy efficiency reduces the cost of meeting it. Essentially, if the cost of energy efficiency is lower than the price of the permit, then shifting more emphasis onto energy efficiency reduces the overall cost of emissions trading. At the same time, if we decided to include mechanisms in emissions trading schemes, then energy efficiency could gain some kinds of credits to actually tighten the emissions trading cap.

In other words, the total impact on energy price by combining ETS, EE and expanded MRET will be lower than the sum of the individual impacts. MRET will increase investment in renewable energy and energy efficiency will reduce demand and this will reduce the impacts of meeting the greenhouse caps under the emissions trading scheme.

The Democrats consider that not increasing MRET or failing to progress aggressive energy efficiency actions is neither strategic nor defensible. Combining the action on all three policy fronts as well as tax reform, is more appropriate in managing the cost impacts of restructuring our economy.

Broader Policy Context

The report's conclusion does not acknowledge the broader policy concept of reducing greenhouse emissions and preparing Australia for the deep cuts in greenhouse that will be required "post Kyoto".

The Government claimed, in its Tracking Kyoto Report, to be on target to meet its 108% of 1990 levels Kyoto target and attributes this improvement (on the previous government's 109% projection) as being due principally to the expansion of the Mandated Renewable Energy Target (to 20% by 2020). However, because the measure will not commence until 2010; just two years short of the end of the commitment period in 2012, the take up rate in these two years will need deliver 6,000 GWh of renewable energy to displace the 6 million tonnes of carbon emissions that must be avoided in order to meet the target.

The Democrats recommend the passage of these bills as soon as possible.

**Senator Lyn Allison
Australian Democrats**

Appendix 1
Submissions received for the
National Market Driven Energy Efficiency Target Bill
2007 [2008]

Sub No.	Submitter
1	Mr Matt Brazier
2	Hydro Tasmania, TAS
3	Confidential
4	Adjunct Professor Alan Pears, VIC
5	R.V. Barbero, NSW
6	Green Building Council of Australia, NSW
7	Origin Energy
8	Szencorp, Sustainable Development, VIC
9	Dr Rob Passey, Centre for Energy and Environment Markets, University of New South Wales, NSW
10	Energy Retailers Association of Australia Incorporated, NSW
11	Ergon Energy, QLD
12	TRUenergy Australia Pty Ltd, VIC
13	Australian Conservation Foundation
14	Australian Sustainable Built Environment Council
15	Mr Tim Kelly
16	Clean Energy Council, VIC
17	Department of Climate Change

Appendix 2

Submissions received for the Renewable Energy Legislation Amendment (Renewable Power Percentage) Bill 2008

Sub No.	Submitter
1	Mr Kevin Cox, ACT
2	Dr Andrew Lothian, SA
3	Mr Matt Brazier
4	Greenbank, VIC
5	Doctors for the Environment Australia, WA
6	SOLCO – Sustainable Water and Power Solutions, WA
7	Mr Justin Wood, WA
8	ExxonMobil Australia, VIC
9	Conergy Pty Ltd, VIC
10	Clean Energy Council, VIC
11	Department of Climate Change, Cwlth

Appendix 3

Public Hearing and Witnesses

St James Court Conference Centre, Melbourne, 12 May 2008

Szencorp

Mr Mark Lister, *Group Manager Corporate Affairs*

ExxonMobil Australia

Mr Rob Young, *Senior Issues and Government Relations Adviser*

Australian Petroleum Production & Exploration Association# Dr Brian Fisher,
Executive Director Economic Analysis, Concept Economics

Origin Energy

Mr Peter Haenke, *Manager Carbon Projects*

Greenbank Australia Pty Ltd

Ms Fiona O'Hehir, *Chief Executive Office*

Mr John Wayland, *Director*

Clean Energy Council

Mr Rob Jackson, *General Manager Policy*

Adjunct Professor Alan Pears

Senior Lecturer in Environment & Planning, RMIT

