

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 per cent, 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.**