

The Senate

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Economics  
Legislation Committee

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Renewable Energy (Electricity) Amendment  
Bill 2009 and a related bill [Provisions]

August 2009

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# Senate Economics Legislation Committee

## Members

Senator Annette Hurley, Chair	South Australia, ALP
Senator Alan Eggleston, Deputy Chair	Western Australia, LP
Senator Doug Cameron	New South Wales, ALP
Senator Barnaby Joyce	Queensland, NATS
Senator Louise Pratt	Western Australia, ALP
Senator Nick Xenophon	South Australia, IND

## Substitute Member

Senator Don Farrell (replacing Senator Louise Pratt for the hearings on 5 and 6 August 2009)	South Australia, ALP
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## Participating Members participating in this inquiry

Senator Mark Bishop	Western Australia, ALP
Senator the Hon. Ron Boswell	Queensland, NATS
Senator David Bushby	Tasmania, LP
Senator Steve Fielding	Victoria, FFP
Senator Christine Milne	Tasmania, AG

## Secretariat

Mr John Hawkins, Secretary  
Mr Andrew Bray, Principal Research Officer (WISE programme)  
Mr Glenn Ryall, Senior Research Officer  
Ms Meredith Bond, Executive Assistant  
Ms Hanako Jones, Executive Assistant

PO Box 6100  
Parliament House  
Canberra ACT 2600  
Ph: 02 6277 3540  
Fax: 02 6277 5719  
E-mail: [economics.sen@aph.gov.au](mailto:economics.sen@aph.gov.au)  
Internet: [http://www.aph.gov.au/senate/committee/economics\\_ctte/index.htm](http://www.aph.gov.au/senate/committee/economics_ctte/index.htm)



# TABLE OF CONTENTS

<b>Membership of Committee.....</b>	<b>iii</b>
<b>Chapter 1.....</b>	<b>1</b>
<b>Introduction and conduct of the inquiry .....</b>	<b>1</b>
Conduct of the inquiry .....	1
The two bills .....	1
Background.....	2
How the scheme works.....	4
Structure of the report.....	5
<b>Chapter 2.....</b>	<b>7</b>
<b>Structure of the renewable energy target.....</b>	<b>7</b>
Targets under the Australian RET .....	7
Renewable energy targets in other countries.....	9
Shortfall charge .....	10
Is the target too low or too high?.....	12
Coverage of the RET .....	15
Solar credits .....	20
<b>Chapter 3.....</b>	<b>23</b>
<b>Employment Impacts and Costs of Delay .....</b>	<b>23</b>
Employment Impacts.....	23
Real wage impacts .....	25
Costs of delaying the RET legislation.....	26
Business Certainty .....	28
Arguments for the RET other than climate change.....	28
Committee view.....	29

<b>Chapter 4.....</b>	<b>31</b>
<b>The renewable energy target as a complement to emissions trading .....</b>	<b>31</b>
The RET and an ETS.....	31
The RET as an industry development measure .....	33
Encouraging diversity of renewable energies .....	34
The Spanish experience .....	42
<b>Chapter 5.....</b>	<b>45</b>
<b>Modelling the impact of the RET .....</b>	<b>45</b>
Comparing the RET and the CPRS .....	45
Impact on electricity prices .....	46
Impact of exemptions .....	48
Impact on investment and GDP.....	49
<b>Chapter 6.....</b>	<b>51</b>
<b>Assistance for electricity users .....</b>	<b>51</b>
Aluminium industry.....	53
Assistance for other organisations.....	55
Linkage between CPRS and RET assistance .....	55
<b>Additional comments by Coalition Senators .....</b>	<b>59</b>
Background.....	59
Decoupling and assistance for trade-exposed industry .....	63
Design features of the renewable energy target .....	71
Costs and employment .....	77
Conclusion.....	79
<b>Minority report by Senator Xenophon .....</b>	<b>81</b>
Introduction .....	81
Specific provisions of the bill.....	81
Review of cost effectiveness of RET measures .....	84
Recommendations .....	84

<b>Minority Report from the Australian Greens.....</b>	<b>87</b>
<b>APPENDIX 1 .....</b>	<b>89</b>
<b>Submissions Received.....</b>	<b>89</b>
<b>Additional Information Received.....</b>	<b>92</b>
<b>APPENDIX 2 .....</b>	<b>93</b>
<b>Public Hearings and Witnesses .....</b>	<b>93</b>



# Chapter 1

## Introduction and conduct of the inquiry

### Conduct of the inquiry

1.1 The Senate referred the Renewable Energy (Electricity) Bill 2009 and the Renewable Energy (Electricity) (Charge) Bill 2009 to the Economics Legislation Committee on 18 June 2009 and required the committee to report by 12 August 2009.

1.2 The committee advertised the inquiry in the national press and invited written submissions by 24 July 2009. Details of the inquiry were placed on the committee's website and the committee also wrote to a number of organisations and stakeholder groups inviting written submissions. The 133 submissions received by the committee are listed in Appendix 1.

1.3 Three public hearings were held by the committee, in Perth on 2 July 2009 and in Canberra on 5 and 6 August 2009. A list of witnesses appearing before the committee at hearings is provided at Appendix 2.

1.4 The committee thanks all those who participated in this inquiry.

### The two bills

1.5 The bills implement the agreement on a Renewable Energy Target (RET) reached by the Council of Australian Governments (COAG) on 30 April 2009.<sup>1</sup> This agreement aims to have at least 20 per cent of Australian electricity supply coming from renewable sources by 2020. The RET forms a part of the government's strategy with the Carbon Pollution Reduction Scheme to transition Australia to a low carbon economy over time.

1.6 The RET will expand the current Mandatory Renewable Energy Target (MRET) and replace various existing and proposed state and territory schemes with one national scheme.

1.7 The RET continues many of the features of the current MRET scheme, such as eligible sources and the banking of renewable energy certificates to promote smoother investment over time.

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1 COAG meeting outcomes, 30 April 2009, [http://www.coag.gov.au/coag\\_meeting\\_outcomes/2009-04-30/index.cfm](http://www.coag.gov.au/coag_meeting_outcomes/2009-04-30/index.cfm), viewed 6 August 2009.

1.8 The Renewable Energy (Electricity) Amendment Bill 2009 amends the *Renewable Energy (Electricity) Act 2000* to increase the current target from 9,500 gigawatt-hours (GWh) to 45,000 GWh in 2020.

1.9 The Renewable Energy (Electricity) (Charge) Amendment Bill 2009 increases the shortfall charge under the Renewable Energy Target (RET) from \$40 per megawatt-hour to \$65 per megawatt-hour. The level of this penalty will be monitored to ensure it remains an effective incentive for investment in renewable energy.

## Background

1.10 This committee has identified in earlier reports the importance of a global response to the scientific evidence of climate change and the very high probability that it is being caused by human activity.<sup>2</sup> The Committee has also argued that it is appropriate that Australia plays its fair share in this global effort. As the Committee commented in an earlier report:

Indeed, as one of the world's highest per capita emitters of greenhouse gases, one of the world's wealthiest countries, one of the major beneficiaries of past greenhouse gas emissions, one of the countries best endowed with renewable energy sources and one of the countries that would suffer most from further climate change, there is a strong case that Australia should be willing to make a more than proportionate contribution to this global effort.<sup>3</sup>

1.11 Australia can make an important contribution to lowering our emissions by making more use of renewable sources to generate electricity. Australia currently makes relatively high use of fossil fuels to generate electricity (Chart 1.1), and these account for over a third of Australia's emissions of greenhouse gases. This does not need to be the case. Australia is abundantly endowed with renewable energy resources:

If you think about Australian renewable energy assets, they are world class and deployed across the country. In the north, in Queensland, we have world-class solar assets. In the south we have roaring forties wind, geothermal assets dotted from the Cooper Basin all around the country, ocean and wave technologies available both with tidal technologies in far north-western Australia and the tidal currents and ocean currents all across the southern coast. We have hydro assets from the world's best hydro generation in Tasmania and the Snowy Mountains, as well as biomass and bio-energy in Queensland from the sugar industry and others emerging in that technology. However you look at it, it is a clean energy Disneyland in

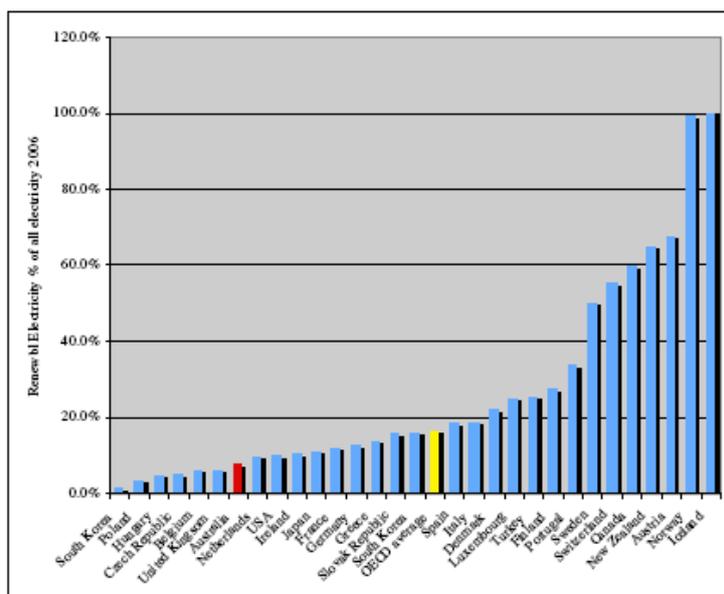
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2 See Chapter 6 of the Committee's report *Carbon Pollution Reduction Scheme Bill 2009 and related bills*, June 2009.

3 Senate Standing Committee on Economics, *Exposure draft of the legislation to implement the Carbon Pollution Reduction Scheme*, April 2009, p 1.

Australia with both the competitive energy market and the full array of these renewable resources... Australia is one of maybe three or four countries in the world that has genuine potential to power itself virtually entirely from renewables: Brazil, maybe Iceland, possibly New Zealand and Australia—simply because of its relative population size, the size of the country and the location it has got. It is just blessed with everything and we are going to be the lucky country yet again.<sup>4</sup>

**Chart 1.1: Electricity generated by renewable energy (% of total)**



Source: Greg Buckman, *Submission 21*, p 6; based on data from International Energy Agency, 2009.

1.12 The first policy initiative to increase usage of renewable energy was the Mandatory Renewable Energy Target (MRET) established by legislation in 2000 and regulations in 2001 by the Howard Government. When it foreshadowed the introduction of the MRET, in 1997, as a response to climate change, the rationale was given as:

This will accelerate the uptake of renewable energy in grid-based power applications and provide an ongoing base for commercially competitive renewable energy. The program will also contribute to the development of internationally competitive industries which could participate effectively in the burgeoning Asian energy market.<sup>5</sup>

1.13 The MRET was reviewed in the Tampling Report in 2003 to which the then government responded in its 2004 Energy White Paper.

4 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, pp 70 and 72.

5 Hon John Howard, cited in Parliamentary Library, *Bills Digest*.

1.14 At the 2007 election most parties made commitments to increased renewable/low emissions electricity targets for 2020; being 15 per cent in the case of the Liberal/National and Family First parties, 20 per cent for Labor and 25 per cent for the Greens.<sup>6</sup> In 2008 COAG released two discussion papers on the RET and the Government released draft exposure legislation. In January 2009, the Government released a technical report by Walter Gerardi of McLennan Magasanik Associates.

1.15 After discussion at COAG, and as the Government developed its Carbon Pollution Reduction Scheme (CPRS) proposals, a further exposure draft of the RET legislation, essentially the same as the current bill, was issued in June 2009, incorporating assistance for what are sometimes termed 'RET-affected trade-exposed' (RATE) industries.

### **How the scheme works**

1.16 The RET scheme will operate in a similar manner to the existing MRET, if on a larger scale.

1.17 The MRET operates through the trade in renewable energy certificates (RECs). One REC represents one megawatt-hour of electricity. RECS are generated by eligible renewable energy sources.

1.18 Wholesale purchasers of electricity are required to meet a share of the RET in proportion to their share of the national wholesale electricity market. They do this by buying the requisite RECs and surrendering them to the Renewable Energy Regulator, or paying the shortfall charge.

1.19 The RET scheme will be administered by the Office of the Renewable Energy Regulator (ORER), the statutory authority which currently administers MRET. However, under the provisions of the Australian Climate Change Regulatory Authority Bill 2009 and the Carbon Pollution Reduction Scheme (Consequential Amendments Bill) 2009, responsibility for administration of the RET will be transferred to the Australian Climate Change Regulatory Authority if those bills are passed.

1.20 The RET will cost \$2.2 million to modify and expand the capacity of the REC online register and around \$3 million a year in ongoing administrative costs.

1.21 There are provisions for a review, by an appropriately qualified person, of the RET scheme in 2014 to coincide with the proposed strategic review of the CPRS.

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6 Parliamentary Library,  
<http://www.apf.gov.au/library/pubs/ClimateChange/governance/domestic/national/party.htm>  
(accessed 8 August 2009).

## **Structure of the report**

1.22 Structural aspects of the RET, such as the target and coverage are discussed in Chapter 2. Employment opportunities and the consequences of a delay in the passage of the legislation are discussed in Chapter 3. The operation of the RET within the context of an emissions trading scheme, notably its role in developing renewable energy industries, is the subject of Chapter 4.

Chapter 5 provides a discussion of different attempts to model the costs of the RET. Chapter 6 deals with assistance to electricity users affected by the RET.



## Chapter 2

### Structure of the renewable energy target

#### Targets under the Australian RET

2.1 The bills increase the current annual renewable energy targets from 9,500 gigawatt-hours (GWh) to 45,000 GWh in 2020. The 45,000 GWh target will then be maintained until 2030. The annual targets will ramp up from January 2010, as shown in Table 2.1. By comparison the current target under MRET is 8,100, but current production is around 10,000 GWh.<sup>1</sup>

**Table 2.1: Targets under the RET: gigawatt-hours**

2010	12,500	2020	45,000
2011	14,400	2021	45,000
2012	16,300	2022	45,000
2013	18,200	2023	45,000
2014	20,100	2024	45,000
2015	22,000	2025	45,000
2016	26,600	2026	45,000
2017	31,200	2027	45,000
2018	35,800	2028	45,000
2019	40,400	2029	45,000

Source: *Explanatory memorandum*, pp 5-6.

2.2 The targets under both the current MRET and the proposed RET refer to renewable energy in excess of the around 15,000 GWh that was in place in 1997. The total amount of electricity generated by renewable sources in 2020 will therefore be the base 15,000 GWh plus the target 45,000, a total of 60,000. As the total electricity generated in 2020 is projected to be 300,000 GWh, the renewable component will be 20 per cent of the total (Table 2.2). (This represents a significant increase from the 7½ per cent in 2005-06, around four-fifths of which comes from hydro-electric power.<sup>2</sup>)

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1 Mr Andrew Livingston, Renewable Energy Regulator, *Proof Committee Hansard*, 5 August 2009, p 18. The excess of 10,000 production over the 8,100 GWh target is being 'banked' under the MRET. See paragraph 2.9 for a further discussion of 'banking'.

2 Parliamentary Library, Research Paper, 'The potential for renewable energy to provide baseload power in Australia', p 4.

2.3 This calculation is based on Treasury modelling. The Committee has no grounds to question it as a good point estimate and notes that Treasury comment 'the range of projections for energy demand across different organisations is actually relatively small'. But as with all projections this far out, there is a degree of uncertainty around it.

2.4 It is notable that Treasury's projection has been challenged by submissions arguing that either the total electricity generated would be higher or lower than the 300,000 GWh used in the calculation:

The 2007 report by Australian Bureau of Agricultural and Resource Economics (ABARE) to the Australian Government Department of Resources, Energy and Tourism, Canberra, projected electricity generation to reach 349,400 GWh in the year 2019-2020. Based on the current RET 2020 target of 45,000 GWh, plus the baseline renewable generation capacity of 15,000 GWh, the total electricity from renewable sources will only be 17.2% of the total. Based on the ABARE projections the RET 2020 target should be a conservative 55,000 GWh to meet the minimum 20% target.<sup>3</sup>

...Australian electricity demand in 2020 will be 260,000GWh, and this suggests that the target in 2020 is [should be] 37,000GWh, not 45,000GWh as expressed in the legislation.<sup>4</sup>

2.5 As noted above, there are provisions for a review, by an appropriately qualified person, of the RET scheme in 2014 to coincide with the proposed strategic review of the CPRS.

## **Recommendation 1**

**2.6 The committee recommends that as part of the 2014 review of the RET, the Treasury projection of total electricity demand in 2020 is reviewed and if it is revised up, there be a corresponding increase in the RET to maintain the goal of 20 per cent of electricity being generated from renewable sources in 2020.**

2.7 Operating on its own, the RET might see the proportion of electricity generated from renewable sources dropping below 20 per cent through the 2020s as the renewable target is steady but total electricity production, the denominator, is growing. However, by the 2020s it is likely that more renewable energy sources will be self-sustaining and the CPRS will have made them more competitive.

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3 LMS Generation, *Submission 81*, p 9. Calculations by Greg Buckman, *Submission 21*, pp 7-9 reach a similar conclusion.

4 Australian Industry Greenhouse Network, *Submission 59*, p 5.

2.8 The projected composition of electricity from renewable electricity is shown in Table 2.2.

**Table 2.2: Composition of electricity generated from renewable sources (GWh)**

	<b>Pre-MRET baseline</b>	<b>2020</b>
Hydroelectricity	15,000	18,000
Wind		17,000
Geothermal		10,500
Bagasse		3,000
Wood/wood waste		3,000
Municipal solid waste		2,000
Other		6,500
Total		60,000
<i>Memo: total electricity generation</i>		300,000
<i>(% from renewables)</i>		20%

Sources: read from chart on page 5 of McLennan Magasanik Associates, *Benefits and Costs of the Expanded Renewable Energy Target*, January 2009; *Proof Committee Hansard*, 5 August 2009, pp 5, 17-18.

### ***Banking of RECs***

2.9 The RET continues the practice in the MRET of allowing ‘banking’ of RECs between years. If a liable entity surrenders more RECs than are required to discharge a liability for a given period, the extra RECS are carried forward as a surplus which may be used to acquit future REC liabilities. In effect, these surplus RECS are ‘banked’ in the REC registry. Similarly, if a liable entity has a REC shortfall for a compliance year, then provided this shortfall is less than 10 per cent of their total liability, this shortfall can be carried over to the following year.

### **Renewable energy targets in other countries**

2.10 Schemes such as the RET are now common overseas, operating in the United Kingdom, Italy, Sweden, Belgium, Canada, China, Japan and 25 states of the USA (including a 33 per cent target for California).<sup>5</sup> In late 2008 the European Union

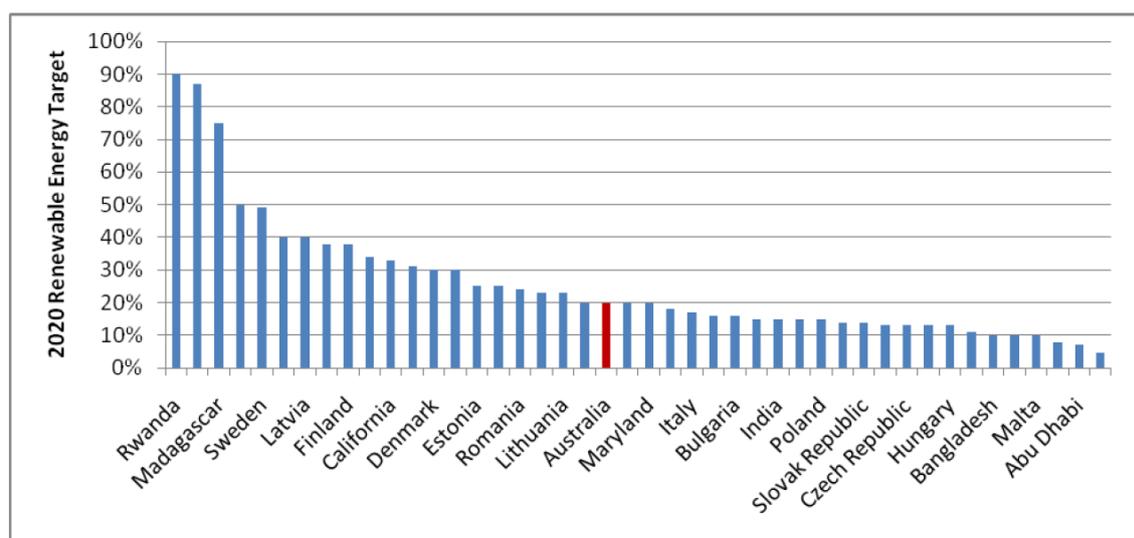
5 Greg Buckman, *Submission 21*, p 5; Department of Climate Change, Answers to questions on notice, August 2009.

agreed on a 20 per cent renewable energy target for 2020.<sup>6</sup> By one count, 'by early 2009 policy targets for renewable energy existed in at least 73 countries'.<sup>7</sup>

2.11 The Australian RET is argued to be lower than that proposed in the United States:

While the recently proposed Waxman-Markey climate change bill in the USA has a lower 2020 stated target of 17.5% it continues to increase to 25% by 2025 then sustained at 25% out to 2039.<sup>8</sup>

**Chart 2.1: Renewable energy targets**



2020 renewable energy targets in selected countries:

Source: Australian PV Association, *Submission 31*, p 4.

2.12 As noted above (Chart 1.1), the proportion of electricity generated from renewable sources in Australia is well below the OECD average. The 20 per cent target would raise it to around the average.

### Shortfall charge

2.13 The shortfall charge increases from \$40 per megawatt-hour under the MRET to \$65 per megawatt-hour under the RET. The level of this penalty will be monitored to ensure it remains an effective incentive for investment in renewable energy. (Very few liable parties have had to pay the shortfall charge under the MRET.<sup>9</sup> This is

6 Vestas, *Submission 129*, p 2.

7 *Renewables Global Status Report: 2009 Update*, The Renewable Energy Policy Network for the 21st Century; [http://www.ren21.net/pdf/RE\\_GSR\\_2009\\_Update.pdf](http://www.ren21.net/pdf/RE_GSR_2009_Update.pdf).

8 LMS Generation, *Submission 81*, p 9.

9 Hon Greg Combet, Second reading speech, *House of Representatives Hansard*, 2009.

despite the charge sometimes being below the price of a certificate. This may be attributable to some opprobrium attaching to paying the charge, which may be regarded as being a 'fine'.)

2.14 Some submissions express concern that the charge should be kept at an adequate level:

...the Unit would want to ensure that there is a mechanism in place to ensure the price of not complying remains substantially higher than the price of RECs, so as to provide a real incentive to comply.<sup>10</sup>

An un-indexed penalty as suggested in the draft legislation, based on a projected peak REC price effectively puts a cap on the market price in uncertain economic times...as a minimum, the penalty should be indexed to CPI to reflect the ongoing price increase associated with participation in the scheme.<sup>11</sup>

...it is clear the RET's shortfall charge has not been set [at] a level well above expected maximum RECs prices early in the RET's life and there is therefore a strong case for increasing the shortfall charge or at least indexing it to inflation.<sup>12</sup>

The shortfall price be set at 200% of the REC price, adjusted annually, and shall fall to no less than \$40/MWh.<sup>13</sup>

2.15 The Department of Climate Change is confident that even unindexed the charge will be adequate:

REC prices are expected to peak at close to \$70 in the early years...but decline over time as the carbon price delivered through the CPRS increases. As such, the shortfall charge will not need to be indexed over time.<sup>14</sup>

2.16 However, in case they are wrong, there is a provision that:

The level of the shortfall penalty will be monitored to ensure that it remains effective as an incentive for investment in renewable energy.<sup>15</sup>

## Recommendation 2

**2.17 The Committee recommends that to underline the shortfall charge's role as a penalty rather than a price ceiling, it be reviewed after any year in which the maximum price for a renewable energy certificate exceeds 80 per cent of the shortfall charge.**

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10 Uniting Church, *Submission 79*, p 3.

11 LMS Generation, *Submission 81*, p 9.

12 Mr Greg Buckman, *Submission 21*, p 19.

13 Greenpeace Australia, *Submission 43*, p 2.

14 Department of Climate Change, Answers to questions on notice, August 2009.

15 Mr Blair Comley, *Proof Committee Hansard*, 5 August 2009, p 5.

## Is the target too low or too high?

### *Calls for a higher target*

2.18 Some witnesses and submissions called for higher targets:

... we would like to see the renewable energy target increased to 25 per cent. The projects I talked about before which are already on the table would meet the proposed 20 per cent target, and go further. So we already have in the pipeline, waiting to go, projects that would exceed 20 per cent. We believe that the nation should go for 25 per cent by 2020.<sup>16</sup>

...the current target of 20% is too low. It does not provide substantive clarity to the market to undertake massive investment in renewable energy technologies which is vital for future employment in Australia. For Australia to make its contribution to avoiding dangerous climate change, we need to undertake a RET target of at least 40% by 2020 with a goal of reaching a 100% renewable energy future.<sup>17</sup>

...we need to go to 30 per cent and 40 per cent and ... not see the 20 per cent target as a ceiling. In the long term, we need to have sustainable energy in Australia and most of that will be renewables.<sup>18</sup>

...there are good reasons ... for a larger target. One of those is that if you look around the world the emissions intensity—the tonnes of CO<sub>2</sub> per megawatt hour for electricity in Australia—are almost double the emissions intensity of the electricity industries of developed countries...<sup>19</sup>

### *Concerns about baseload power*

2.19 Those arguing against there being any RET are effectively arguing for a lower – zero – target. The other concern that leads to calls for a more modest target is that there may be practical limits on increasing the proportion of electricity sourced from renewables as many types of renewable energy do not provide baseload power: that the sun does not shine at night and winds are not always blowing.

2.20 This criticism does not apply to all renewables:

Geothermal energy is the most likely of the emerging technologies to deliver baseload energy ...ocean technologies currently provide a significantly higher degree of predictability than wind energy.<sup>20</sup>

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16 Mr Philip Freeman, Australian Conservation Foundation, *Proof Committee Hansard*, 5 August 2009, pp 76-7.

17 The Wilderness Society, *Submission 76*, p 2. A 40 per cent target for 2020 is also supported by Greenpeace Australia, *Submission 43*, p 2.

18 Dr Muriel Watt, IT Power, *Proof Committee Hansard*, 6 August 2009, p 52.

19 Dr Iain MacGill, Joint Director, Centre for Energy and Environmental Markets, *Proof Committee Hansard*, 6 August 2009, p 83.

20 Emerging Technologies, *Submission 113*, p 3.

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2.21 A CSIRO expert explained:

...geothermal is looked upon as a base load technology. It will be once it gets up and running. It is a renewable that does not have intermittency and variability. Bio-energy is the same. If you have a continuous supply of bio-energy, it is going to be a base load power source. It does not really apply to those. Wind is a different matter. It is a variable resource and it is always going to be a variable resource. Some people say that if you have enough wind farms scattered over a wide enough area added altogether you are going to get close to baseload supply. Of course, that is actually happening in places like Europe, where there is a fairly dense power distribution network and fairly dense generation sites. Usually at some stage there is wind somewhere in the area that helps to reduce that variability, but it is still there...There have been all sorts of proposals in tidal energy in smoothing out that load—by pump storage, for example. At times of really high tidal flow you use that power to pump water uphill and when the tide is turning or not running you let it go downhill and generate electricity from it. So you can smooth it out.<sup>21</sup>

2.22 Renewable energy advocates reject the baseload argument:

Options for the provision of stable and continuous solar power include actively shifting loads from night to daytime; wide geographical dispersion of solar systems to minimise the effect of cloud; precisely predicting solar energy output using satellite imagery; diversification of energy supply to include all renewables; and energy storage. A future large-scale day-night storage option is the batteries of million of electric cars, which will be able to provide 24 hour storage of Australia's entire electricity production. Pumped hydro (whereby water is pumped uphill during the day and released through turbines at night to provide energy) is an efficient, economical and commercially available storage option. Lakes covering only 50 km<sup>2</sup> (about 2 m<sup>2</sup> per citizen) utilising either fresh water or seawater, would be sufficient to provide 24 hour storage of Australia's entire electricity production. In the longer term, intercontinental high voltage DC transmission will further reduce the need for storage.<sup>22</sup>

2.23 The baseload 'problem' is partly an artefact of current pricing mechanisms:

Time-of-use tariffs (whereby electricity generation and consumption has a value that varies throughout the day) are important for solar energy, since solar energy production often coincides with high daytime electricity prices driven by demands from industry and air conditioners.<sup>23</sup>

2.24 There was also evidence that the electricity market is adaptable:

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21 Dr Wright, CSIRO, *Proof Committee Hansard*, 5 August 2009, pp 38-9.

22 Professor Andrew Blakers, *Submission 2*, p 5.

23 Professor Andrew Blakers, *Submission 2*, p 7.

Australia has probably one of the most robust national electricity markets that we have seen and it is very capable of managing variability in supply simply because it manages variability in demand from consumers on a daily basis. It is a matter of the people who have been running the market getting a better understanding of the new supply-side dynamic ...and also adjusting our technologies.<sup>24</sup>

2.25 A study by the Parliamentary Library concluded:

The technology is already available for generating reliable continuous electrical power from some renewables (e.g. biomass). However, the current power capacity is small. Further development in the renewables sector is required before any significant level of substitution of coal-fired power can take place. Research and development into solar thermal, photovoltaic, ocean and geothermal energy indicates very promising prospects for reliable and continuous power from renewables within the next two to four decades.<sup>25</sup>

2.26 Intermittent power sources can still provide baseload power if the power generated can be stored. A problem with storing energy is that it may be 'taxed twice':

In many of these applications, the electrical energy is effectively 'consumed' twice. In the first instance, at times of low demand, it is converted into whatever stored medium is being used (water pumped into a higher reservoir or, say, heating molten salts). The potential energy in these mediums can then be converted back to electrical energy, often with an efficiency loss in the process. This time-shifted electrical energy is again consumed by a load – but now during a time of excess demand. The current RET legislation does not account for the actuality that the stored electrical energy is not being 'used', in the common sense of the term. For example, under the current legislation, a storage device being 'charged' using overnight wind energy will be considered a load and the sale of electricity to that storage device, where the device is not behind the fence of the generation system, will attract a REC liability...the sale of electrical energy attracts two sets of REC costs, once at the point of original generation, and again at the point of re-generation from its stored medium.<sup>26</sup>

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24 Mr Richards, *Proof Committee Hansard*, 6 August 2009, p 58.

25 Stewart Needham, 'The potential for renewable energy to provide baseload power in Australia', 23 September 2008.

26 Griffin Energy, *Submission 7*, pp 1-2.

## **Coverage of the RET**

### ***Eligible energy sources***

The following energy sources are eligible renewable energy sources under the MRET (section 17 of the Act) and are not proposed to be changed in the RET:

- (a) hydro;
- (b) wave;
- (c) tide;
- (d) ocean;
- (e) wind;
- (f) solar;
- (g) geothermal aquifer;
- (h) hot dry rock;
- (i) energy crops;
- (j) wood waste;
- (k) agricultural waste;
- (l) waste from processing of agricultural products;
- (m) food waste;
- (n) food processing waste;
- (o) bagasse;
- (p) black liquor;
- (q) biomass based components of municipal solid waste;
- (r) landfill gas;
- (s) sewage gas and biomass based components of sewage;
- (t) any other energy source prescribed by the regulations.

### *Calls for expanded coverage*

2.27 There have been calls to expand the coverage of the RET beyond electricity generated from renewable sources:

...the RET should be expanded to include all eligible energy sources including the use of industrial waste and waste coalmine gases as eligible energy sources.<sup>27</sup>

...the RET scheme should be broadened to include liquid fuels and heat generation.<sup>28</sup>

2.28 Some submissions called for nuclear power to be regarded as renewable.<sup>29</sup> Steel manufacturers called for industrial waste gases to be regarded as renewable.<sup>30</sup> As described below, there are also calls for forest wood and waste mine gas to be included.

2.29 APPEA suggest:

...the Bill could be amended to allow a combined renewables/gas-based project to provide base load power generation and be eligible to a proportion of a REC (say, 50 per cent) to recognise the synergies of such an approach in facilitating the entry of renewables into base load service.<sup>31</sup>

### *Calls for narrower coverage*

2.30 There are other concerns that coverage is too broad and should be more focused:

...the Renewable Energy Target should be about shifting how large scale power generation is carried out. While this should include small scale distributed power generation through renewable sources, such as wind power and solar, it should exclude the installation of solar panels and solar hot water systems by households.<sup>32</sup>

In terms of treatment of solar hot water heaters, it is unclear what they are doing there. It is a renewable electricity target. That is the stated intention of the scheme's 20 per cent target. They have added a huge amount of

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27 Ms Maria Tarrant, Director of Policy, Business Council of Australia, *Proof Committee Hansard*, 5 August 2009, p 28.

28 Australian Forest Growers, *Submission 14*, p 2.

29 Robert Gishubl, *Submission 54*, p 1.

30 Bureau of Steel Manufacturers of Australia, *Submission 17*, p 5.

31 APPEA, *Submission 66*, p 6.

32 Uniting Church, *Submission 79*, pp 1-2.

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complexity, they do not generate renewable electricity and they raise all of these other questions...<sup>33</sup>

2.31 Some witnesses wanted eligibility restricted to new projects:

Another issue...is unrestricted eligibility of pre-1997 projects that were included or built under the mandatory renewable energy target. They will continue to earn RECs until 2030...It reduces the effectiveness of the scheme and creates the potential for windfall profits. We have ways of addressing that such as the use of sunset clauses so that projects can only earn renewable energy certificates for a period of years.<sup>34</sup>

### ***Heat pumps***

2.32 The Gas Industry Alliance stressed their opposition to the inclusion of heat pumps:

...heat pump water heaters should not be part of the RECs scheme...[they] are not a solar product...they do not absorb solar radiation...<sup>35</sup>

2.33 In response, Rheem Australia argued that:

An annual market of 160,000 solar and heat pump water heater equates to reducing household CO<sub>2</sub> emissions by nearly half a million tonnes per annum... 65% of a heat pump's energy usage comes from renewable sources.<sup>36</sup>

2.34 The Department of Climate Change informed the Committee that:

Renewable Energy Certificates (RECs) are allocated to both solar and heat pump water heaters according to a methodology that considers the amount of renewable heat energy the water heater can deliver over a 10-year period, netting out any supplementary energy (electricity or gas) used in heating the water. The relative efficiencies of different models of solar water heaters and heat pump water heaters of a similar size is reflected in their RECs allocation.<sup>37</sup>

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33 Dr Iain MacGill, Joint Director, Centre for Energy and Environmental Markets, *Proof Committee Hansard*, 6 August 2009, p 84.

34 Dr Iain MacGill, Joint Director, Centre for Energy and Environmental Markets, *Proof Committee Hansard*, 6 August 2009, p 84.

35 Mr Gregory Ellis, Gas Industry Alliance, *Proof Committee Hansard*, 5 August 2009, p 83. The inclusion of heat pump water heaters is criticised further in the submissions by Bosch, *Submission 116* and LMS Generation, *Submission 81* p 4 and by Dr Muriel Watt, IT Power, *Proof Committee Hansard*, 6 August 2009, p 52.

36 Rheem, *Submission 123*, pp 1-2.

37 Department of Climate Change, Answers to questions on notice, August 2009.

## **Forest wood**

2.35 The National Association of Forest Industries wants greater scope for wood waste within the scheme:

Regulatory barriers restricting the potential for forest and wood residues to be used for renewable energy production should be addressed to enhance Australia's energy security, provide access to the financial benefits of the expanded RET and the CPRS and encourage the commercial application of wood-based renewable energy technologies.<sup>38</sup>

2.36 The Australian Forest Growers argue:

The present exclusion of heat generation (for both industrial and domestic use) from the RET scheme has prevented recognition of the significant use of waste wood both in mills and processing plants. This affects forest growers, who currently have limited access to markets for waste wood that is a by-product of necessary forest tending.<sup>39</sup>

2.37 Similarly, the paper industry argues:

Forest biomass and forest residues in Australia are carbon neutral, and therefore should be eligible as a source of renewable energy. No further requirements should be imposed (e.g. regarding alternative uses of the biomass). The use of the biomass should be determined through commercial forces and these should be left to work unencumbered; this approach will encourage greater investment in plantation (and forest) growing and management.<sup>40</sup>

2.38 On the other hand, there are concerns about the burning of wood from native forests counting as renewable energy:

Is the supply of the source of native forest 'waste' renewable? In other words, are native forests renewable? Given that it takes 80 years to recover carbon and return water catchments to pre-logged status and 200 years to form the hollows for high order birds and animals, such as gliders need, in the complex bio-diversity that is a natural forest, then, no!<sup>41</sup>

...the bill encourages deforestation and land-clearing to provide for the burning of wood...the removal of this material deprives forests of vital nutrients to the soil and endangers native species' habitats.<sup>42</sup>

Bioenergy fuelled by wood taken from native vegetation (especially forests) is unsustainable and should be categorically ruled out across Australia.<sup>43</sup>

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38 National Association of Forest Industries, *Submission 94*, p 1.

39 Australian Forest Growers, *Submission 14*, p 2.

40 A3P, *Submission 96*, p 6.

41 Prue Acton, *Submission 55*, p 1.

42 Lawyers for Forests, *Submission 56*, p 1.

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## **Waste mine gas**

2.39 Many submissions call for fugitive methane emissions associated with coal mines to be counted as 'renewable' and receive RECs:<sup>44</sup>

In the current MRET municipal waste gases are eligible and they would seem to me to be no more renewable than waste coalmine gas...<sup>45</sup>

We strongly believe that the use of waste coal mine methane gas for electricity generation is consistent with the objectives of the Australian Renewable Energy (Electricity) Amendment Bill, and that it should be listed as an eligible renewable energy source.<sup>46</sup>

2.40 This view is rejected by some other witnesses and submitters:

I would be very much against adding any fossil fuel power into a renewable energy target. I think the fossil fuel industry gets a huge amount of support in Australia.<sup>47</sup>

...waste mine gas is not a renewable source and should not be included in the Act. It would be appropriate to make arrangements for existing waste mine gas operations by transitional arrangements under either the CPRS Bill (which could continue the NSW GGAS legislation for a period of five years) or through allocations under the coal industry support stream of the Climate Change Action Fund. In the future coal waste mine gas should be dealt with by conditions of development consents.<sup>48</sup>

Other sources of cleaner energy – gas, coal seam methane could be assisted by a Low Emissions Energy Target (LEET) but they should not be included in the RET firstly because they are not 'renewable' and secondly because their inclusion will effectively water down RET as a market mechanism.<sup>49</sup>

2.41 One concern was that opening up the definition of 'renewable' to include waste mine gas would be a dangerous precedent:

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43 The Wilderness Society, *Submission 76*, p 2. See also Margaret Blakers, *Submission 25*, Harriett Swift, *Submission 48* and Greenpeace Australia, *Submission 43*, p 2.

44 As well as the submissions quoted below the Queensland Resources Council, *Submission 127*, pp 2-3 and GE Energy Australia, *Submission 86*, pp 2-3 argued for the inclusion of these fugitive emissions, as did a confidential submission.

45 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network, *Proof Committee Hansard*, 5 August 2009, p 44. See also Australian Industry Greenhouse Network, *Submission 59*, p 4.

46 Australian Ethical Investment, *Submission 92*, p 1.

47 Dr Muriel Watt, IT Power, *Proof Committee Hansard*, 6 August 2009, p 68.

48 World Wildlife Fund, *Submission 9*, p 6.

49 Environment Business Australia, *Submission 126*, p 12.

That would be a single-purpose change to legislation that everybody else would have to comply with, which I think would open up a can of worms for every other participant in the marketplace.<sup>50</sup>

## Solar credits

2.42 The 'solar credits' mechanism allows owners of small scale renewable energy systems, such as household solar photovoltaic systems, to earn multiple RECs, as shown in Table 2.3, depending on the installation date. These additional RECs are sometimes referred to as 'phantom RECs'. The multiplier applies to only the first 1.5 kilowatt of rated output, and some submissions called for this to be increased.<sup>51</sup>

**Table 2.3: Certificates multiplier for small generation units**

9 June 2009 to 30 June 2012	5
1 July 2012 to 30 June 2013	4
1 July 2013 to 30 June 2014	3
1 July 2014 to 30 June 2015	2
From 1 July 2015	1

Source: *Explanatory memorandum*, p 5.

2.43 The Solar Credits scheme is criticised by some witnesses and submitters:

While the solar credit scheme is endorsed by the council, it will result in the creation of what we call 'phantom RECs' that are produced as part of the multiplier but not actually linked to any clean energy generation. If these additional RECs are not replaced, then the overall target of 45,000 gigawatt hours will not be achieved.<sup>52</sup>

This Solar Credits element would distort the RET and diminish its efficacy, and should not proceed...if renewable energy is to be subsidised at all it should be in a technology-neutral way that encourages the most cost-effective generation.<sup>53</sup>

The solar credits scheme introduced to replace the photovoltaic rebate program is seriously flawed and undermines the objectives of the renewable

50 Mr Richards, *Proof Committee Hansard*, 6 August 2009, p 68.

51 Solar-Wind-Systems, *Submission 1*, p 1; Todae, *Submission 5*, p 1; BP Solar, *Submission 63*, p 6; Green Energy Markets, *Submission 100*, p 1; Kyocera Solar, *Submission 105*, p 1; RF Industries, *Submission 106*, p 2 and Conergy, *Submission 44*, p 2 all called for it to be increased to 10kW. CSR called for it to be increased to 5kW; *Submission 47*, p 3. The Australian PV Association and IT Power called for it to be increased to 3kW for residential PV systems; *Submission 51*, p 2 and Dr Muriel Watt, IT Power, *Proof Committee Hansard*, 6 August 2009, p 52.

52 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p 67.

53 Australian Industry Group, *Submission 64*, p 6.

energy target. The creation of multiple RECs undermines the amount of renewable energy that has to be generated as a way of meeting the target. It also places householders in a difficult position. Most people who are seeking to install photovoltaics (PVs) want to do so because they believe they are doing something positive for the environment. Under the new scheme, in order to receive any financial incentive they must sell their RECs. This reduces the amount of renewable energy that power generators must install, thus meaning the householder contributes nothing additional to what is required to occur with the renewable energy target. Therefore, the Unit does not support the inclusion of small scale (household) PVs as part of the expanded Renewable Energy Target.<sup>54</sup>

...the proposed REC 'multiplier' for micro-generation, including household PV...creates even greater incentives for early investment in renewable generation, from sources that may or may not be as cost effective when compared to others.<sup>55</sup>

2.44 AGL Energy offers the following suggestion:

...a formula should be considered for the legislation to increase the quantity of RECs required in each year to ensure that 'phantom RECs' do not result in actual renewable generation being lower than that specified in the legislated target.<sup>56</sup>

2.45 Other critics would like the scheme rethought:

With the deeming arrangements and the multiplier for small solar PV installations, I think the first point to make is that this multiplier is no substitute for a well-thought-out, coherent and comprehensive policy framework. It is a sort of jimmy fix and it is not going to do as well as a more coherent and thought-through policy approach.<sup>57</sup>

2.46 In response, the Department of Climate Change explained:

Solar credits will commence from 9 June 2009 and be phased out by 2015-16, recognising that technology costs are going down and the role of CPRS in providing incentives for renewable technologies. The timing of the phase-out by 2015-16 means that Solar Credits will not adversely affect reaching the 20 per cent target by 2020.<sup>58</sup>

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54 Uniting Church, *Submission 79*, p 3.

55 Ausra, *Submission 91*, p 8. See also Moreland Energy Foundation, *Submission 19*, p 2.

56 AGL Energy, *Submission 39*, p 2. A similar idea is put by Mr Philip Freeman, Australian Conservation Foundation, *Proof Committee Hansard*, 5 August 2009, p 77; Mr Kane Thornton, Hydro Tasmania, *Proof Committee Hansard*, 6 August 2009, p 51, Conergy, *Submission 44*, p 2 and CSR, *Submission 47*, p 4.

57 Dr Iain MacGill, Joint Director, Centre for Energy and Environmental Markets, *Proof Committee Hansard*, 6 August 2009, p 84.

58 Department of Climate Change, Answers to questions on notice, August 2009.



## Chapter 3

### Employment Impacts and Costs of Delay

#### Employment Impacts

3.1 Modelling undertaken by McLennan Magasanik Associates (MMA) suggests that over 20,000 jobs will be created in the renewable energy sector due to the RET.<sup>1</sup>

3.2 The MMA study:

...estimated that these renewable energy projects could create more than 25,000 jobs including 15,000 construction jobs, 2,500 new permanent positions and 8,600 indirect jobs in supporting sectors. The significant proportion of these jobs would be in rural and regional Australia.<sup>2</sup>

3.3 A study by Access Economics for the Clean Energy Council concluded:

The RET combined with energy efficiency delivers about 28,000 net jobs in Australia to 2020, and the majority of those from the renewable energy industry.<sup>3</sup>

3.4 Pacific Hydro note:

...research undertaken by the Climate Institute found that if all renewable energy projects currently in the development pipeline were pursued, 26,000 jobs would be created in Australia.<sup>4</sup>

3.5 Other groups have also referred to the employment benefits from the RET:

In Australia, the renewable energy industry currently employs about 10½ thousand people directly. If the target is brought into place with the extension as planned, we expect to have 25,000 to 30,000 jobs by 2020, and even more after that.<sup>5</sup>

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1 Ms Meghan Quinn, Treasury, *Proof Committee Hansard*, 5 August 2009, p 10.

2 Department of Climate Change, Answers to questions on notice, August 2009.

3 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p 69. In the original source, Access Economics say 'in aggregate, Access Economics estimates that the climate change policies assessed for this report will create a net 28,230 FTE positions over the period 2010 to 2020'; Access Economics, *The Net Employment Impacts of Climate Change Policies*, p ii.

4 Pacific Hydro, *Submission 8*, p 1.

5 Dr Muriel Watt, IT Power, *Proof Committee Hansard*, 6 August 2009, p 52.

...renewable energy projects will deliver...26,000 jobs throughout rural and regional Australia...<sup>6</sup>

...renewable energy projects are twice as employment intensive as, say, the fossil fuels sector.<sup>7</sup>

3.6 The MMA study provided estimates of the impacts of the RET at a state level. The state hurt most is Victoria (a plausible result given their reliance on brown coal) while the main gainers are Tasmania (presumably benefiting from their hydro power) and South Australia (with vast geothermal resources).

3.7 Another study by MMA projects employment gains by state (Table 3.1).

**Table 3.1: Employment gains by state (thousands, FTE)**

	Peak construction jobs	Ongoing
NSW/ACT	4.1	0.8
Victoria	3.6	0.8
Queensland	0.9	0.5
Western Australia	1.4	0.4
South Australia	3.8	0.8
Tasmania	1.3	0.5

Source: McLennan Magasanik Associates, *Regional Employment and Income Opportunities Provided by Renewable Energy Generation*, May 2009, pp 9, 11. <http://www.climateinstitute.org.au/images/MMAreport.pdf>.

3.8 Some studies try to go further and analyse the impact on jobs at a sub-state level. However, experts warned the Committee of the biases often inherent in modelling at this level due to the unavailability at sub-state level of much of the required data:

...one of the issues with disaggregating below a sub-state level in Australia is that it does not take account of any abatement opportunities that will be generated in the future. So, by definition, the analysis that you have before you does not include any jobs from the renewable energy sector that do not exist today... these subregional economic analyses are biased. They suggest that there will be more job losses than would be reasonable if we were able to do general equilibrium analysis.<sup>8</sup>

...if you are looking to use a computable general equitable modelling tool to form a quantitative estimate of the amount of jobs created at below the

6 Hydro Tasmania, *Submission 40*, p 7, citing McLennan Magasanik Associates, *Regional Employment and Income Opportunities Provided by Renewable Energy Generation*, May 2009.

7 Dr Karl Mallon, World Wildlife Fund, *Select Committee on Climate Policy Hansard*, 1 May 2009, p 49.

8 Ms Meghan Quinn, Treasury, *Proof Committee Hansard*, 5 August 2009, pp 10 and 12.

state level then the current tools in Australia are not able to produce that modelling...<sup>9</sup>

3.9 Again, the Committee was presented with a range of modelling results. Many studies claiming large adverse impacts on overall economic activity are 'worst case' scenarios, as they assume away the extent to which a smaller increase in activity by one company frees up capital, finance and labour and thereby allows a larger increase in activity by another company.

### **Real wage impacts**

3.10 Contrary to the impression sometimes given, modelling by both Treasury and for the Minerals Council projects that real wages continue to grow with or without the RET, and with or without the CPRS. The increase is modestly smaller under some scenarios than others but under no scenarios do real wages fall.

3.11 Another assertion is that wages in renewable energy will be lower than in emissions-intensive energy generation. Treasury explained that in the absence of any compelling evidence, there is no reason to think this is true:

Economic theory and data would suggest that real wages generally grow in line with productivity and the level of real wages generally reflects the productivity of labour. So industries with high labour productivity, which are typically capital intensive industries, have higher real wages than other lower capital intensive industries. So it depends very much on what you mean by green jobs versus other types of jobs, and there is a very imprecise definition there. Renewable energy industries tend to be very capital intensive, so theoretically you would expect the level of real wages in those industries to be quite high.<sup>10</sup>

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9 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 6 August 2009, p 93.

10 Ms Meghan Quinn, Treasury, *Proof Committee Hansard*, 5 August 2009, p 25.

## Costs of delaying the RET legislation

3.12 Many submissions were received from the renewables sector, especially the solar energy area, referring to the potential damage to the industry, and its job potential, if the RET legislation is delayed:<sup>11</sup>

A draft RET bill was produced in December 2008, and the bill finally entered the parliament in June 2009. It was deferred by the Senate a few days later...The price of renewable energy certificates fell sharply immediately following the Senate's deferral of the bill. Orders for solar PV have evaporated, and staff are now being laid off or are idle in clean energy companies across an industry which is supposed to be gearing up to deliver 20 per cent of Australia's electricity in 11 years time.<sup>12</sup>

...the delay that is coming about from the legislation is delaying those projects that, at this time of the global financial crisis, could be delivering new employment opportunities and new projects to Australia right now.<sup>13</sup>

...many of our customers have indicated that they will be forced to lay off workers if the renewable energy target legislation is not introduced before October.<sup>14</sup>

There is currently a massive amount of pent-up investment in the renewable energy industry which continues to await the safe passage of the RET legislation. While Australia's renewable energy projects are on hold, countries like China and the United States and those in Europe are charging ahead with clear incentives and long-term policy certainty for their renewable energy sectors.<sup>15</sup>

3.13 Some investors outside the industry took a similar view:

The RET provides investors with the clear rules they need in order to invest in renewable energy generation in Australia in the short to medium term. Without an expanded RET in place, investments in new renewable energy

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- 11 In addition to the those quoted below, similar sentiments were expressed in submissions such as Todaye, *Submission 5*; Solar Co, *Submission 12*; Solaris Technology, *Submission 71*; Greenback Environmental, *Submission 88*; Silcar, *Submission 90*; Belling Solar, *Submission 95*; Great Southern Solar, *Submission 98*; Sun Empire Solar Systems, *Submission 99*; Eureka Funds Management, *Submission 102*; Australian Sugar Milling Council, *Submission 104*; Kyocera Solar, *Submission 105*; RF Industries, *Submission 106*; Suzlon Energy, *Submission 107*; Vestas, *Submission 129*; Solar Shop, *Submission 130*; Clean Energy Council, *Submission 112*; Solahart Lismore, *Submission 24*; Jason Sharam, *Submission 34*; Conergy, *Submission 44*; Origin Energy, *Submission 53*, p 2; Modern Solar, *Submission 121*, p 1; Air Solar Bundaberg, *Submission 4*, p 1; Solar-Wind-Systems, *Submission 1*, p 1; Pacific Hydro, *Submission 8*, p 1.
- 12 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p 67.
- 13 Professor Ray Wills, CEO, Western Australian Sustainable Energy Association, *Committee Hansard*, 2 July 2009, pp 2-3.
- 14 Ms Andrea Gaffney, BP Solar, *Proof Committee Hansard*, 6 August 2009, p 50.
- 15 Mr Kane Thornton, Hydro Tasmania, *Proof Committee Hansard*, 6 August 2009, p 50.

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projects will not proceed, causing a delay in Australia's transition to a low-carbon economy.<sup>16</sup>

3.14 The sugar industry, who will be able to generate power from the currently wasted bagasse by-product, was also keen to avoid further delay:

We support the national renewable energy legislation framework as it is proposed. We support the proposed penalty price and we want to see the overall scheme design and structure remain as it is. We do not want to see it revisited.<sup>17</sup>

3.15 They emphasised the benefits the RET could bring to regional Queensland:

We are talking about regional energy security and generating electricity close to the regional communities that are using that power. We are talking about regional employment security for the existing jobs in the sugar industry and generating new employment during project construction, many jobs that are currently under pressure from some of the resources downturn in recent times. More money in the sugar industry has flow-on for regional communities dependent on the local sugar industry, from millers, growers, harvesters, suppliers and contractors all putting money back into regional economies.<sup>18</sup>

3.16 The impact of the delay has been quantified:

Since the legislation was referred to this Committee in late June, the market price of a Renewable Energy Certificate (REC) has dropped from around \$52 to around \$38. That price impact is not only damaging the business case of every proposed renewable energy investment in Australia, but it is also being felt in the revenue streams of companies that have made existing renewable energy investments. One estimate puts the dollar value of this most recent delay at \$165 million, with much more damage to be felt unless the legislation is passed soon.<sup>19</sup>

A survey of CEC members reveals the delay is costing the industry at least \$2 million a week.<sup>20</sup>

3.17 There were some submissions from households seeking clarity so they could decide whether to install solar panels:

We have been trying to find out about installing solar PV panels to help electricity generation in a small domestic way. But nobody can tell us what the rules will be from July 1st. !!!..Please expedite the design, and approval

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16 Investor Group on Climate Change, *Submission 119*, p 1.

17 Mr Dominic Nolan, Chief Executive Officer, *Proof Committee Hansard*, 6 August 2009, p 38. See also Australian Sugar Milling Council, *Submission 104*, p 2.

18 Mr Dominic Nolan, Chief Executive Officer, *Proof Committee Hansard*, 6 August 2009, p 38.

19 Vestas, *Submission 129*, p 4.

20 Clean Energy Council, *Submission 112*, p 2.

of a scheme that will work, enabling thousands of householders to contribute to power generation and the reduction of greenhouse gasses.<sup>21</sup>

I call on politicians of all parties to pass legislation that gives some certainty to people wanting to purchase solar power systems.<sup>22</sup>

3.18 This was often expressed in the context of the need to replace the home solar rebate.<sup>23</sup>

### **Business Certainty**

3.19 There is a lot of discussion in the context of an ETS about providing certainty to business. This can also be an argument for complementing an ETS with a RET:

...we should be relying primarily on price measures, so to that extent a renewable energy target is a backup measure...there is a fair bit of price uncertainty so it gives investors in that [renewable energy] sector some of the certainty that they like—that there will be some demand for their product even if, for example because of the financial crisis, it turns out easier to meet the [emissions] target...<sup>24</sup>

### **Arguments for the RET other than climate change**

3.20 The RET has mainly been justified on environmental grounds. However, it could be argued for on energy security grounds. While Australia is a net energy exporter, it is a net oil importer, and a large gross importer of oil. Building up the renewable energy industry would reduce this dependence on foreign energy suppliers.

3.21 The role that renewable energy could have in energy security has been raised in the context of biofuels:

The potential exhaustion of Australia's domestic oil reserves within 7 to 8 years and our growing dependence on imported oil pose yet untended challenges. Protecting the fuel market from including the active development and use of renewable and gaseous alternative fuels as

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21 Rob & Sandra Willis-Jones, *Submission 70*, p 1.

22 Roger McMillan, *Submission 33*, p 1.

23 For example, Paul & Margaret O'Brien, *Submission 75*, p 1; Rob and Leonie Zadow, *Submission 82*, p 1; Meredith McKenzie, *Submission 120*; David Murray, *Submission 28*; Tina Donovan, *Submission 36*; and Mary-Anne Naumann, *Submission 38*.

24 Professor John Quiggin, *Proof Select Committee on Climate Policy Hansard*, 28 April 2009, p 23.

transition fuels from oil dependence is not in the interest in promoting genuine future transport energy security and climate change.<sup>25</sup>

3.22 Diversifying energy sources also has the potential to reduce the vulnerability of the economy to disruptions to large single facilities or pipelines. A recent such incident was as the Varanus Island explosion.<sup>26</sup>

3.23 Renewable energy not only provides greater certainty about the availability of power, but also about its cost:

The one key advantage of renewables over, say, coal or gas is that, once the asset is built, the fuel cost is zero. There is sun, there is wind: the fuel cost to the operator is zero. So it is a certain cost in the sense that when you build it you know what energy you are likely to get out of it and you know that the fuel cost is effectively zero. It is very different for proponents of new gas and coal fired generators, where for those fuel costs they are increasingly going to be looking towards international export market parity.<sup>27</sup>

### **Committee view**

3.24 The committee heard evidence relating to the impact that the RET will have on employment. The committee accepts the results of modelling for the Treasury which indicates that the RET will have a significant positive impact on employment in the renewables sector. The committee is concerned that delay in the passage of the legislation could jeopardise these opportunities.

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25 Quote from Renewable Fuels Australia to the Select Committee on Climate Policy, Submission 16, page 3.

26 See Senate Standing Committee on Economics, *Gas Explosion at Varanus Island*, Western Australia, December 2008.

27 Mr Tim Nelson, AGL Energy, *Proof Committee Hansard*, 6 August 2009, p 57.



## Chapter 4

# The renewable energy target as a complement to emissions trading

### The RET and an ETS

4.1 It is commonly argued that an effective emissions trading scheme will provide emissions mitigation at lower cost than a RET with a binding target. If the RET is non-binding, then it just results in wasted administrative and compliance costs:

...reductions in emissions of greenhouse gases should be achieved at the lowest possible cost. Ai Group therefore supports a broad-based market approach in the form of a well-designed ETS to drive lowest-cost emissions abatement across the whole economy. If the proposed CPRS is passed, with appropriate amendments to assist affected industries during the transition, there will be no need for the RET at all.<sup>1</sup>

If you were comfortable with all of the parameters of an ETS and you thought that the targets were right and other dimensions of the scheme were right, I do not think you could make a case for the renewable energy target. It would be redundant. Any case for the renewable energy target depends on your not thinking that the ETS is defined in a way that will do the job. You do not think the targets are ambitious enough or you think something else is wrong with it...Is the renewable energy scheme an economically efficient way of reducing emissions? No, the emissions trading scheme is more efficient.<sup>2</sup>

An MRET operating in conjunction with an ETS would not encourage any additional abatement, but still impose additional administration and monitoring costs. To the extent that the MRET is binding (which is its purpose) it would constrain how emission reductions are achieved — electricity prices would be higher than otherwise and market coordination about the appropriate time to introduce low-emissions energy technologies would be overridden. If it was non-binding, it would simply increase administrative, compliance and monitoring costs. Moreover, it would also help to foster a perception that governments are amenable to interfering with the least cost abatement objective of the ETS. This could encourage

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1 Australian Industry Group, *Submission 64*, p 2.

2 Professor Ross Garnaut, *Proof Select Committee on Climate Policy Hansard*, 16 April 2009, pp 55-6.

other potential beneficiaries to seek special programs that neither increase abatement nor reduce its cost.<sup>3</sup>

4.2 The bill amends the existing act so that instead of aiming 'to reduce emissions of greenhouse gases', the goal is now 'to reduce emissions of greenhouse gases in the electricity sector'. This may be an acknowledgement that under the CPRS it will be the targets set in the CPRS that determine total emissions and reducing them in the electricity sector 'frees up' permits for other sectors to increase their emissions.

4.3 One submitter wanted this interaction made more explicit:

The Committee should recommend that this Bill mandate full disclosure in RECs transactions such that householders are properly advised that when they sign across RECs or Solar Credits they are displacing other renewables already required by law, achieving zero additional renewable energy and zero reduced emissions for Australia.<sup>4</sup>

4.4 Whether the RET will be binding will depend on how strict is the target under the CPRS. Treasury told the Committee that if the CPRS target for 2020 emissions is a five per cent reduction from 2000 levels, then renewable energy accounts for only about 10 per cent of total electricity sources in 2020.<sup>5</sup> Under this modest CPRS, the RET doubles the usage of renewable energy.

4.5 With a more ambitious target of a 25 per cent reduction in emissions, it is projected that the CPRS would lead to almost 25 per cent of Australian electricity generation coming from renewable energy in 2020.<sup>6</sup> This would exceed the proportion set by the RET, so in this sense the RET might be regarded as redundant.

4.6 Some witnesses did not believe the case had been made for any RET:

...the proposed expansion of the renewable energy target is occurring without the evidence of market failure.<sup>7</sup>

4.7 The Clean Energy Council responded:

...we do not have a full carbon price globally which would make these investments unequivocally beneficial... We are trying to discover what these technologies can do and at what scale. We know that they can do a lot; it is just a question of how much, and how much they will cost and how

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3 Productivity Commission, 'What Role for Policies to Supplement an Emissions Trading Scheme?': Submission to the Garnaut Climate Change Review, May 2008, p. xvii. A similar comment by the PC was cited by Mr Michael Hitchens, CEO, Australian Industry Greenhouse Network, *Proof Committee Hansard*, 5 August 2009, p 43.

4 Mr Tim Kelly, *Submission 6*, p 4.

5 Ms Meghan Quinn, Treasury, *Proof Committee Hansard*, 5 August 2009, p 6.

6 Department of Climate Change, Answers to questions on notice, August 2009.

7 Ms Maria Tarrant, Business Council of Australia, *Proof Committee Hansard*, 5 August 2009, p 27.

quickly and how big they can deploy. You can wait for the market to do that but, without signals, the market may take a generation to actually start answering those questions. There is a time imperative in the current advice on climate science,<sup>8</sup>

## The RET as an industry development measure

4.8 A RET may be justified as a complement to an emissions trading scheme if there is an industry development objective. The Department of Climate Change explained it as follows:

The expanded RET scheme is a key transitional measure accompanying the proposed CPRS. Whereas the CPRS will help bring renewable technologies into the market over time, the national RET scheme will accelerate deployment of renewable energy technologies by providing a guaranteed market for renewable energy. The RET will conclude in 2030, at which time the CPRS is expected to be the primary driver of renewable energy deployment...As the carbon price increases, you would not need a renewable energy target to make the renewable energy cost competitive because the pure carbon price itself from the CPRS makes it competitive. That is why the RET is explicitly a transitional measure...<sup>9</sup>

4.9 This is how many witnesses and submitters see the RET:

The idea of a renewable energy target is an industry development measure to drive and accelerate deployment and development of these technologies ahead of any carbon price...<sup>10</sup>

...the purpose of a renewable energy target is...to provide for industry development.<sup>11</sup>

...we view the RET as a transitional measure which is one part of a package of policies that will stimulate investment in renewable technologies.<sup>12</sup>

While the objective of the CPRS is to bring down Australia's emissions, the purpose of the RET is to build the energy industries Australia requires to deliver this sustainably.<sup>13</sup>

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8 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p 70.

9 Mr Blair Comley, Deputy Secretary, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, pp 4 and 6.

10 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p 67.

11 Professor Ray Wills, Chief Executive Officer, Western Australian Sustainable Energy Association, *Committee Hansard*, 2 July 2009, p 2.

12 Origin Energy, *Submission 53*, p 1.

13 Pacific Hydro, *Submission 8*, p 1.

4.10 The Minister has explained the rationale for the RET in the following terms:

The policy point of the renewable energy target is to bring on investment into renewable technologies earlier than would otherwise have been. It is the case that there are a number of technologies that have not yet been commercially deployed. There are technologies which are already being utilised. This is a substantial ramp-up in the target, in part to provide a market incentive for the private sector to invest in renewable energies.<sup>14</sup>

4.11 The argument for industry development is that renewable energy is an industry of the future and Australia is lagging behind. Greenpeace suggest:

There is not a single wind turbine anywhere in Europe that was built as a result of their emissions trading scheme—not one. They were built as a result of the renewable energy targets and feed-in tariffs and other direct regulatory policies.<sup>15</sup>

4.12 Another perspective is that the RET seeks to accelerate the take-up of renewable power rather than prop it up artificially indefinitely. Professor Wills offers this comparison:

...the IT industry in the 1980s started without government intervention. It started because there was a perceived demand for the technology, and businesses paid at the very expensive end of the technology curve in the eighties for IT equipment that over the last 25 years has become very affordable and very mainstream. I have no doubt that the renewable energy industry, if left alone, would do the same thing over the next 25 to 30 years. But the challenge for us here, today, in 2009, is that we want technologies that will reduce emissions today and not in 20 or 30 years time. So the problem for us is that we actually have to pay the premium price for a service that cannot really be delivered in any other way at this point—that is, emissions-free energy.<sup>16</sup>

### **Encouraging diversity of renewable energies**

4.13 A concern with the RET is that it may not encourage development of a diverse range of renewable energies, but lead to a concentration on whichever is viewed as currently the cheapest, probably wind:

The Bill needs to provide support for new and emerging technologies which may be less competitive against the mature lowest-cost offering today but which offer longer term potential in the market. This point was made in the Stern Report and expressed as “While markets will tend to deliver the least-cost short-term option, it is possible they may ignore technologies that

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14 Hon Penny Wong, *F&PA Estimates Hansard*, 29 May 2009, p 28.

15 Mr John Hepburn, Greenpeace Australia Pacific, *Select Committee on Climate Policy Hansard*, 21 April 2009, p 58.

16 Professor Ray Wills, Chief Executive Officer, Western Australian Sustainable Energy Association, *Committee Hansard*, 2 July 2009, p 4.

could ultimately deliver huge cost savings in the long term”. “Policy should be aimed at bringing a portfolio of low-emission technology options to commercial viability.”<sup>17</sup>

...the value of the RECs to the business case of projects built in the first few years of the scheme may result in projects offering an early and extended return getting off the ground against projects ready for development in the middle of the scheme with higher up front development costs ultimately producing cheaper or, overall, a more cost effective energy over the lifetime of the project.<sup>18</sup>

4.14 In particular, the geothermal industry is concerned that the RET will encourage the more mature renewable energy industry, such as wind, and be phased out before it can assist emerging renewable energies:

...the incentives offered under the scheme might not be available by the time geothermal generation projects and other emerging renewable energy technology projects were ready to come onstream... the RET scheme will in fact defer the development of geothermal energy projects in Australia, as the incentives it provides will encourage the development of the existing technologies at a level that will effectively lock out geothermal energy projects.<sup>19</sup>

4.15 This criticism may be overstated. The Department of Climate Change pointed out:

...the modelling indicates a reasonable diversity of renewable energy at 2020 including a substantial amount of geothermal.<sup>20</sup>

### ***Banding***

4.16 A desire to ensure diversity of renewable energy sources has led to some calls for requiring minimum contributions from particular renewable sources, sometimes referred to as 'banding', 'tranches' or 'carve-outs':

...amending the legislation to create specific carve-outs for emerging technology...would essentially ensure that a sufficient proportion of the RET would be reserved for emerging renewable technologies when they are expected to be developed.<sup>21</sup>

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17 Solar Systems, *Submission 97*, p 1. The quotation from the *Stern Review* is from section 16.4.

18 Emerging Technologies, *Submission 113*, p 2.

19 Ms Susan Jeanes, Chief Executive Officer, Australian Geothermal Energy Association, *Proof Committee Hansard*, p 51.

20 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 16. See Table 2.2.

21 Geodynamics, *Submission 45*, p 5.

4.17 Professor Andrew Blakers calls for a specific tranche of 15,000 GWh for solar energy (photovoltaics and solar thermal energy) which he argues has the most long-run potential:

Solar energy will eventually dominate clean energy markets – its immense advantages are clear. However, another decade will be required to get the cost of solar energy down to the 12c/kWh mark where it will successfully compete at large scale with wind.<sup>22</sup>

4.18 It has been pointed out that the scheme proposed in the United Kingdom encourages a diversity of sources:

...the United Kingdom's banded scheme, which proposes awarding the equivalent of a quarter of a Renewable Energy Certificate per megawatt hour of electricity to established technologies such as landfill gas, one Certificate for wind and two for an emerging technology like solar thermal.<sup>23</sup>

4.19 A variant of this approach has been suggested by the Australian Geothermal Energy Association:

...it is quite a good proposal that merging technologies have to generate 0.75 per cent of a megawatt hour to get a REC and that existing technologies have to generate 1.25 megawatts to get their REC, and that way you end up with basically the same cost across the scheme.<sup>24</sup>

4.20 Another approach to the same end is the use of 'boosters':

For instance a "Solar Booster" would provide additional value above both the market energy cost and the REC market value for energy produced by certified and contracted solar technology. A Booster would be a fixed, designated payment per Megawatt-hour provided as an 'after market' payment. The Government would have the control and ability to establish Boosters tailored to the specific needs of a new emerging technology...<sup>25</sup>

4.21 These approaches have been rejected by many submitters, notably including those involved with wind energy, as 'picking winners' rather than relying on market forces:<sup>26</sup>

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22 Professor Andrew Blakers, *Submission 2*, pp 1-3.

23 Ausra, *Submission 91*, p 10.

24 Ms Susan Jeanes, Chief Executive Officer, Australian Geothermal Energy Association, *Proof Committee Hansard*, 5 August 2009, p 51. Once a technology reaches, say, 500 megawatts capacity, it is reclassified from emerging to established; Mr Alan Knights, Australian Geothermal Energy Association, *Proof Committee Hansard*, 5 August 2009, p 56.

25 Solar Systems, *Submission 97*, p 2.

26 As well as those cited below, banding was criticised by the Clean Energy Council, *Submission 112*, p 3. See also the comments by their CEO, *Proof Committee Hansard*, 5 August 2009, p 74. Banding has also been criticised by Mr Michael Costello, Managing Director, ActewAGL, *Select Committee on Climate Policy Hansard*, 30 April 2009.

The carve outs have been used internationally in a number of schemes, for instance in the UK, and they have not really worked very well.<sup>27</sup>

...we cannot support technology carve outs as proposed by some organisations for emerging technologies. Our view is that the commercialisation path for those technologies, geothermal, solar thermal etcetera should be advanced through appropriate and targeted policy mechanisms so that in time they can operate under a renewable energy target framework or indeed a CPRS in the longer term.<sup>28</sup>

...introducing banding into the RET will reduce the efficient operation of the market by bringing forward more expensive technologies, adding to the overall cost of the measure; and risk constraining the development of industries that are close to commercially viable.<sup>29</sup>

...there will be stakeholders who want to micro-manage the energy market in an attempt to gain some advantage for the most fashionable and exciting form of power generation, even though it might be many years away from being ready for commercial-scale deployment. Their proposal...is a recipe for endless government involvement in a market that performs best without it.<sup>30</sup>

### ***Impact of banking***

4.22 The banking of RECs (described in paragraph 2.9) may also hamper the development of a range of technologies by encouraging overproduction early on using the currently cheapest technology rather than technologies which may become cheaper in later years:

...this banking distorts the market. It allows you to sit on RECs that you have created and acquit them later...there is a huge incentive to start doing that from 2010, when you get RECs, therefore, from your first project, for 20 years of the scheme.<sup>31</sup>

Unlimited banking creates an incentive to stockpile Renewable Energy Certificates by investing in wind power and more mature renewable energy sources potentially at the expense of solar thermal.<sup>32</sup>

### ***Feed-in tariffs***

4.23 Another way of allowing differentiated tariffs for different technologies is to have a gross feed-in tariff (FIT).

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27 Dr Muriel Watt, IT Power, *Proof Committee Hansard*, 6 August 2009, p 61.

28 Ms Andrea Gaffney, BP Solar, *Proof Committee Hansard*, 6 August 2009, p 61.

29 Suzlon Energy, *Submission 107*, p 3.

30 Vestas, *Submission 129*, p 3.

31 Ms Susan Jeanes, Chief Executive Officer, Australian Geothermal Energy Association, *Proof Committee Hansard*, 5 August 2009, p 53.

32 Ausra, *Submission 91*, p 2.

4.24 A 'feed-in tariff' refers to a premium rate paid for electricity fed back into the electricity grid from a renewable electricity generation source. The most commonly discussed source is a solar panel on the roof of a home which may generate more power than is consumed within the home. However, FITs can also be applied to large scale commercial projects. A *net* feed in tariff, also known as export metering, pays the provider only for surplus energy they produce; whereas a *gross* feed-in tariff pays for each kilowatt hour produced by a grid connected system, whether it is consumed by the producer or fed into the grid.

4.25 State governments currently have or have planned such tariffs (Table 4.1).

**Table 4.1: Feed-in tariff schemes (as at June 2009)**

<i>State/territory</i>	<i>Commencement date</i>	<i>Maximum size</i>	<i>Rate/kWh</i>	<i>Duration</i>	<i>Net or Gross</i>	<i>Technology covered</i>
Victoria	2009	5kW	60c	15 years	Net	Solar PV
South Australia	July 2008	10kW	44c	20 years	Net	Solar PV
ACT	March 2009	10kW for premium price, 30kW for non premium rate	Premium: 50.05c Non-premium: 40.04c	20 years	Gross	All renewable energy types
Tasmania	2009	To be confirmed	20c	To be confirmed	Net	Solar PV
Northern Territory	2008	To be confirmed	Alice Springs: 50.05c up to \$5/day then 23.11c Elsewhere in NT: 14.38	To be confirmed	Net	Solar PV
Western Australia	July 2010	Household only: to be confirmed	60c	To be confirmed	Net	Solar PV
Queensland	July 2008	10kW	44c	20 years	Net	Solar PV
New South Wales	January 2010	10kW	60c	20 years	Net	Solar PV

Source: Greg Buckman, *Submission 21*, p 12.

4.26 A number of witnesses and submissions called for a national gross feed-in tariff.<sup>33</sup>

... BP Solar certainly has been advocating and lobbying hard for the adoption of a gross feed in tariff across all of Australia's jurisdictions with the inclusion of the commercial and industrial sectors...Gross feed in tariffs have now been adopted in more than 45 countries and over 18 states and provinces around the world...Feed in tariffs have been proven as the cheapest and the fastest way of deploying solar PV into the marketplace and

33 As well as the those quoted below, supporters include Solar-Wind-Systems, *Submission 1*, p 1; Modern Solar, *Submission 121*, p 3; Environment Business Australia, *Submission 126*, p 17; Margaret Blakers, *Submission 25*, p 2; Sean Manners, *Submission 32*, p 1; Conergy, *Submission 44* and CSR, *Submission 47*, p 3; and Moreland Energy Foundation, *Submission 19*, p 5.

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we would certainly want to see a gross national feed in tariff in place before the solar credit scheme winds up by the year 2015.<sup>34</sup>

Finally, with almost 30 years of experience directly within the Solar PV industry, RFI believe that the implementation of a Gross National Feed-in Tariff (FIT) is the natural and required market stimulation model to provide certainty, value and benefits to all parties within the renewable energy sector. This is a proven and well known model internationally and one which has been described in detail to government and proven to provide the positive benefits of renewable energy over the short to medium term. The Gross FIT has turned several European countries into world leaders in the field of Renewable Energy and we believe the time has come for Australia to adopt this initiative as a significant tool in the drive for greater adoption of renewable energy in our country.<sup>35</sup>

A common factor amongst the world's strongest renewable energy markets is the use of "Feed-in Tariffs" for driving the uptake of renewable energy.<sup>36</sup>

4.27 Some submissions want business to be able to participate:

In stark contrast to Australia, solar power is being successfully promoted in many countries to business through gross feed-in tariff mechanisms. Feed-in tariffs in virtually every country are open to businesses to participate and profit from investing in solar power production.<sup>37</sup>

4.28 The Clean Energy Council preferred a RET over a feed-in tariff using arguments reminiscent of those for preferring an emissions trading scheme over a carbon tax:

A feed-in tariff...sets the price and then the volume is set by the market, whereas a renewable energy target sets the volume and then lets the market set the price.<sup>38</sup>

4.29 The Department of Climate Change noted:

A Renewable Energy Target (RET) and feed-in tariff are alternative policy mechanisms for promoting renewable energy uptake often designed to meet similar objectives. A RET sets the quantity of renewable energy and allows for a range of cost effective technologies to be deployed. A RET does not specify the precise rate of support required for each technology. In contrast, a feed in tariff provides a certain amount of support for specified technologies which is set in advance for a future period of time. Given the uncertainty and complexity in setting prices for each technology, feed in

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34 Ms Andrea Gaffney, BP Solar, *Proof Committee Hansard*, 6 August 2009, p 61.

35 RF Industries, *Submission 106*, p 2.

36 Greenpeace Australia, *Submission 43*, p 3.

37 Solar Guys, *Submission 52*, p 2.

38 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p 72.

tariffs could lead to more or less of certain technologies being deployed if the price set does not accurately reflect the amount of support required by that technology.<sup>39</sup>

4.30 Concerns have been expressed about equity aspects of feed-in tariffs aimed at households:

It is deeply inequitable, because the people who can afford it tend to be people with some reasonable amount of money. Here [in the ACT] it is a gross tariff of 50c a kilowatt hour, which is pretty good. It is about four times what we sell our retail tariff for normal energy. That cost, of course, has to be borne by the whole of the community, including the poorer people of the community who spend 15 per cent of their budget on energy as against the better off people who spend five per cent of their budget on energy. There is an equity issue there and, also, it is very expensive.<sup>40</sup>

4.31 There was also claims that it provides less incentive for innovation:

...if you are too generous with the feed-in tariff, you build fat into the technology and the technology becomes lazy and does not strive to continually improve its performance and, if you underset the rate of the feed-in tariff, then you do not get any project development.<sup>41</sup>

4.32 One submitter suggested that only households buying 100 per cent green power should be eligible to be paid a high price under a feed-in tariff.<sup>42</sup>

4.33 COAG decided in November 2008 not to implement a national feed-in tariff.

### *Sunset clauses*

4.34 Another means of encouraging diversity is to restrict the period for which projects can earn RECs:

...sunset clauses so that projects can only earn renewable energy certificates for a period of years. That will also help us address issues of promising but still emerging renewable technologies such as hot rock, which might be coming into play later than some of the early technologies.<sup>43</sup>

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39 Department of Climate Change, Answers to questions on notice, August 2009.

40 Mr Michael Costello, Managing Director, ActewAGL, *Select Committee on Climate Policy Hansard*, 30 April 2009, p 146. See also the discussion in Senate Standing Committee on Environment, Communications and the Arts, *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008*, November 2008, pp 10-11.

41 Ms Susan Jeanes, Chief Executive Officer, Australian Geothermal Energy Association, *Proof Committee Hansard*, 5 August 2009, p 55.

42 Ian Gittus, *Submission 27*, p 1.

43 Dr Iain MacGill, Joint Director, Centre for Energy and Environmental Markets, *Proof Committee Hansard*, 6 August 2009, p 84.

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***Other measures supporting diversity of renewable energy***

4.35 In the 2009-10 Budget, the Government announced the \$4.5 billion Clean Energy Initiative. This includes;

- Australian Solar Institute to support research into solar technologies (\$0.1 billion);
- Solar Flagships programme to create an additional 1,000 megawatts of solar generation capacity (\$1.5 billion);
- Australian Centre for Renewable Energy to promote the development, commercialisation and deployment of renewable technologies (\$0.5 billion);
- Renewables Australia to support technological research and bringing it to market (\$0.5 billion); and
- National Solar Schools programme (\$0.5 billion).<sup>44</sup>

4.36 Some of these programmes complement the RET to develop renewable technologies that may not be viable in the short term but have long term promise:

...the renewable energy target effectively deploys the lowest cost renewable energy currently available at the time it is rolled out. The government expenditure based programs are targeted at areas that would be likely to be more expensive than the current ones picked up on the renewable energy target, but you would expect there would be more novel or innovation benefits from assisting those technologies so that you have a broader suite of renewable energy technologies.<sup>45</sup>

***Committee view***

4.37 The Committee would like to see a range of renewable technologies develop. Renewable Energy Targets have been adopted internationally to provide transitional assistance to renewable energy technologies, where a purely market based approach would not result in sufficient investment and take up in the short term. However the committee is not attracted to the idea of 'banding', which it regards as excessively prescriptive. It welcomes the support for diverse renewable technologies contained in the programmes under the Clean Energy Initiative.

4.38 The Committee understands the geothermal industry's concerns about the impact of unlimited banking of RECs, but also sees the merit in terms of flexibility of allowing for some banking.

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44 2009-10 Budget Papers, and Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 4.

45 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 6.

### **Recommendation 3**

**4.39 The Committee recommends that the banking of renewable energy certificates be assessed as a part of the 2014 review.**

#### **The Spanish experience**

4.40 A paper on the Spanish experience by Dr Alvarez concludes that promoting renewable energy is 'terribly economically counterproductive', and that:

...since 2000 Spain spent €71,138 to create each “green job”, including subsidies of more than €1 million per wind industry job...2.2 jobs destroyed for every “green job” created...Principally, the high cost of electricity affects costs of production and employment levels in metallurgy, non-metallic mining and food processing, beverage and tobacco industries.<sup>46</sup>

4.41 There seem to be quite a few important differences between the Spanish scheme of subsidy payments to nominated renewable industries and the more flexible RET in Australia. Alvarez points to some design flaws, such as arbitrary limits on eligible plant size that increased costs and are not part of the Australian scheme. He also refers to low interest rates sparking a speculative boom in the economy as a whole, not just in the renewable energy sector. Also as a member of the eurozone, Spain effectively has a fixed exchange rate.

4.42 The study has a short-term focus, basing its conclusions on employment outcomes in a period of global recession. It does not refer to the long-term employment benefits of Spain having installed energy sources with low marginal costs. Not is there any reference to the benefits of accelerating investment in renewables to fight climate change effectively. The company he cites as having been driven away from Spain by the higher energy prices, Acerinox, opened a new plant in the US, which is of course now introducing its own measures which will increase the relative price of power.

4.43 The Alvarez study has been critiqued within Spain by Portillo et al, of the Reference Centre for Renewable Energies and Employment, who claim it misrepresents the Spanish system, ignores relevant influences such as past subsidies for fossil fuels, and omits the beneficial effect wind energy has had on electricity prices.<sup>47</sup>

4.44 The Spanish Government is scathing about the study, describing it as:

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46 Dr Gabriel Calzada Alvarez, 'Study of the effects on employment of public aid to renewable energy sources', March 2009.

47 GA Portillo et al, 'Critical review of 'Study of the effects on employment of public aid to renewable energy sources', May 2009; Australian Conservation Foundation, Answers to questions on notice, August 2009.

...based on a simplistic, reductionist and short-term view...[which] contradicts most of the previous studies carried out by different researches...<sup>48</sup>

4.45 Alvarez's estimates of 'green jobs' created are much lower than other, credible, estimates.<sup>49</sup>

4.46 The Department of Climate Change drew the Committee's attention to how the Spanish Government:

...questions the economic methodology employed by the study, and...the focus on short-term economic outcomes at the expense of the medium to long-term impacts of lowering the carbon intensity of electricity production.<sup>50</sup>

4.47 The Department's own views are also critical:

From preliminary analysis of the Alvarez report by DCC, the report uses a simplistic equation to estimate the amount of jobs that would otherwise have been created if the 'green job' was not created. This is measured through a simplified equation that compares the subsidy to renewables against the average productivity of a worker.<sup>51</sup>

4.48 The Australian Conservation Foundation has also critiqued the article and concluded:

The study relies on a flawed methodology, unsourced data and use of secondary sources that are often not cited. The study is an advocacy document, written in English, which was primarily directed at influencing the US political debate.<sup>52</sup>

4.49 There are doubts about the objectivity of the author:

...he has affiliations with a number of climate sceptic conservative organisations—including the Centre for the New Europe which has accepted funding from Exxon Mobil—has spoken to the Heartland Institute on many occasions, heads up a small Spanish free-trade think tank and is a climate sceptic himself...<sup>53</sup>

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48 Letter from Spanish Secretary of State of Climate Change to Henry Waxman, 20 May 2009, provided by Pacific Hydro, Answers to questions on notice, August 2009.

49 Spanish Climate Change Minister, cited by Giles Parkinson, *The Australian*, 6 July 2009, p 25; Australian Conservation Foundation, Answers to questions on notice, August 2009.

50 Department of Climate Change, Answers to questions on notice, August 2009.

51 Department of Climate Change, Answers to questions on notice, August 2009.

52 Australian Conservation Foundation, Answers to questions on notice, August 2009.

53 Mr Freeman, Australian Conservation Foundation, *Proof Committee Hansard*, 5 August 2009, p 80; Australian Conservation Foundation, Answers to questions on notice, August 2009.

4.50 The Institute of Public Affairs cites Alvarez' work, but then makes a more extreme point than Alvarez himself. Dr Moran says that Spain's promotion of renewable energy 'has contributed to an economic disaster' and was 'a significant factor' in Spanish unemployment rising from around the OECD average to the highest rate – 18 per cent.<sup>54</sup>

4.51 Mr Comley from the Department of Climate Change is sceptical about drawing a link between use of renewable energy and high unemployment in Spain:

I would find it quite implausible that those sorts of policies would have any sort of correlation of that type with unemployment. I suspect in the Spanish case that the ending of a construction boom, associated with a range of factors within Europe, is likely to be of greater significance.<sup>55</sup>

4.52 It has also been pointed out that the Spanish unemployment rate was 25 per cent before the renewable energy policy was introduced.<sup>56</sup>

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54 Dr Alan Moran, Institute of Public Affairs, *Submission 16*, p 9.

55 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 7.

56 Giles Parkinson, *The Australian*, 6 July 2009, p 25.

# Chapter 5

## Modelling the impact of the RET

5.1 There has been a range of modelling exercises about the RET. As with most modelling of contentious issues that affect costs facing those who commission the modelling, there are conflicting conclusions.

### Comparing the RET and the CPRS

5.2 An area where there appears to be a broad consensus from the modelling is that if policymakers were choosing between an emissions trading scheme and the RET as the sole approach to reducing emissions, then the trading scheme would be the less costly approach.

5.3 Some industry groups have quoted some Treasury modelling on the RET:  
...as the Treasury modelling shows, the RET achieves potential emission savings at around three times the cost of the CPRS, thereby failing the least cost requirement.<sup>1</sup>

5.4 Along similar lines, the Energy Users Association of Australia commissioned some modelling from Access Economics which concluded:

The cost of this abatement [under the RET] is roughly twice the cost of abatement under the CPRS.<sup>2</sup>

5.5 The Australian Petroleum Production and Exploration Association reported that:

...economic modelling commissioned by APPEA in 2007 showed that the combination of an emissions trading scheme with a 20 per cent renewable energy target is significantly less efficient than an emissions trading scheme in achieving a given level of emissions abatement.<sup>3</sup>

5.6 There is also some modelling suggesting that the RET is redundant in the presence of the CPRS, as the CPRS, even if it only targets a 5 per cent reduction in emissions, will itself drive the share of renewable energy to 20 per cent by 2020.<sup>4</sup>

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<sup>1</sup> Australian Industry Greenhouse Network, *Submission 59*, p 2. A similar statement appears in Business Council of Australia, *Submission 122*, p 3.

<sup>2</sup> Energy Users Association of Australia, *Submission 67*, p 5.

<sup>3</sup> APPEA, *Submission 66*, p 4.

<sup>4</sup> Dr Helal Ahammad, Branch Manager, Climate Change, Department of Agriculture, Fisheries and Forestry, *Select Committee on Climate Policy Hansard*, 16 April 2009, p 119.

## Impact on electricity prices

5.7 A more contentious issue is the projected impact of the RET on electricity prices. The Select Committee on Climate Policy had recommended that:

...the Government consider in detail different claims made about the probable expense of the expanded Renewable Energy Target. Analysis of the different cost estimates should be included in the Regulatory Impact Statement...<sup>5</sup>

5.8 The Department of Climate Change told the committee, drawing on modelling it commissioned from McLennan Magasanik Associates (MMA):

The RET is expected to have a modest impact on electricity prices. ...retail prices are expected to increase on average ... around 3½ per cent above the business-as-usual scenario [in the period 2010 to 2020].<sup>6</sup>

5.9 MMA project that the RET will initially increase wholesale prices, by an average of 3½ per cent over the first five years, but thereafter wholesale prices will be lower than otherwise due to the RET.<sup>7</sup>

5.10 The MMA work is consistent with modelling by Treasury which suggested that a RET could add 2 to 4 per cent to retail electricity prices.<sup>8</sup>

5.11 The Clean Energy Council also give an estimate of an initial increase of around 3 per cent in electricity prices but emphasise that the impact should phase out over time:

...as a carbon price moves in the cost of black energy increases and the value of RECs decreases, so the cost of the scheme decreases. So by 2020, if not earlier, it is quite conceivable that the value of RECs may be zero and the scheme will cost nothing.<sup>9</sup>

5.12 There are also a number of private sector modellers who estimate that the RET will make wholesale electricity prices lower than they otherwise would be. For example, Port Jackson Partners, in a study for the Business Council of Australia, conclude:

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<sup>5</sup> Select Committee on Climate Policy, *Report*, 2009, Recommendation 5, pp 137-8.

<sup>6</sup> Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 5. The original source is McLennan Magasanik Associates, 'Benefits and costs of the expanded renewable energy target', January 2009, p 6.

<sup>7</sup> McLennan Magasanik Associates, 'Benefits and costs of the expanded renewable energy target', January 2009, p 39.

<sup>8</sup> Ms Meghan Quinn, Treasury, *Proof Select Committee on Climate Policy Hansard*, 30 April 2009, p 11.

<sup>9</sup> Mr Matthew Warren, Chief Executive Officer, *Proof Committee Hansard*, 5 August 2009, p 68.

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Although retail prices are higher under the RET scheme (due to the obligation on retailers to surrender RECs), wholesale prices are lower, as...renewable generators typically have low marginal costs, and also because they receive a REC revenue “subsidy” that lowers the revenue they require from the energy market to justify their investment.<sup>10</sup>

5.13 This study has particular credibility because it was commissioned by an opponent rather than a supporter of the RET.

5.14 Roam Consulting reach a similar conclusion, and again they are not RET advocates:

Increasing REC generation will depress pool prices below base case levels...the reduction in pool prices will be offset by the cost of RECs to the retailers (due to the necessity of meeting the expanded MRET).<sup>11</sup>

5.15 A similar conclusion was also reported as being reached in an unreleased study by CRA for the National Generators Forum.<sup>12</sup>

5.16 Mr Upson of Infigen Energy supported these results in his explanation of how the electricity market works:

The electricity price changes every five minutes in the wholesale market. Generators tend to bid to their short-run marginal costs, their incremental costs of generating the next kilowatt hour of electricity. This is the real advantage of renewable energies: the short-run marginal costs are near zero because basically you are just paying for the maintenance of the wind turbine, for example, and the fuel is free. So when you build this new renewable energy-generating plant—and the renewable energy target will facilitate building a lot of electricity-generating facilities—the result is that you have these low-cost, incremental-cost generators bidding very low into the market. Every market is a supply and demand market and if you add to the supply and you keep the demand the same between the two cases, the inevitable outcome is that you are going to reduce the cost. In the case of the wholesale electricity market where you have peak price events, these renewable generators will shave the peak off these peak events and that is why it even magnifies the reduction in pool pricing.<sup>13</sup>

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<sup>10</sup> Port Jackson Partners, 'Bringing specific company economic perspectives to bear on the ETS design', in Business Council of Australia, *Modelling Success: Designing an ETS that Works -- How Emissions Trading Can Work for the Environment and the Economy*, p 133. <http://www.bca.com.au/Content/101485.aspx>

<sup>11</sup> Roam Consulting, *Roam Insight*, Issue 11, p 38. [http://www.roamconsulting.com.au/downloads/ROAMInsight\\_Issue11FullReport.pdf](http://www.roamconsulting.com.au/downloads/ROAMInsight_Issue11FullReport.pdf).

<sup>12</sup> 'An independent study by consultants CRA International last year for the National Generators Forum concluded electricity pool prices would be reduced by 5 per cent if "low cost, short run marginal cost renewables are forced into the generation mix" '; *Herald-Sun*, 13 February 2009.

<sup>13</sup> Mr Jonathan Upson, Infigen Energy, *Proof Committee Hansard*, 6 August 2009, p 60.

5.17 Other modellers have higher estimates. The Energy Users Association of Australia commissioned some modelling from Access Economics on wholesale prices which concluded:

The RET will cause average energy costs to rise by \$12/MWh by 2020. This is around 26% of the average wholesale electricity price between 2004 and 2008.<sup>14</sup>

5.18 Another high estimate is provided by the Institute of Public Affairs, who assert that the RET would increase the average cost of electricity by 10 per cent.<sup>15</sup>

5.19 Many of the studies finding larger impacts tend to be from individuals and organisations with less modelling expertise and are also 'worst case' scenarios, as they assume companies are either unwilling or unable to reduce their use of electricity if its price increases and that the cost of RECs is fully passed on from electricity suppliers to their customers.

### **Impact of exemptions**

5.20 Asked about the impact of exempting some industries from the RET, Treasury's Ms Quinn commented:

It is the case with all analysis with CGE models that if you restrict coverage of a particular component, whether it be what part of the economy is faced with an emission price or which elements of the economy are covered by a particular scheme, we find typically that narrowing the scope on which the policy acts increases the economic costs to the economy in aggregate. It obviously has different impacts at the sector level, but narrowing the focus on a particular component tends to raise the aggregate economic costs of any policy.<sup>16</sup>

5.21 The Energy Users Association of Australia commissioned some modelling from Access Economics which compared the costs to those companies receiving assistance and those not. As the EUAA note:

These are clearly very stark differences and illustrate the extent to which exemptions have the effect of increasing the costs of the scheme to non-exempt industries...Exemptions – to the extent that any are appropriate – need to take account of the evidence of the impact of those exemptions on the beneficiaries and the payees. It also needs to take account of the fundamental rationale for the RET scheme, and deeper considerations of fairness and efficiency...<sup>17</sup>

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<sup>14</sup> EUAA, *Submission 67*, p 4.

<sup>15</sup> Alan Moran, Institute of Public Affairs, *Submission 16*, p 3.

<sup>16</sup> Ms Meghan Quinn, Treasury, *Select Committee on Climate Policy Hansard*, 30 April 2009, p 15.

<sup>17</sup> EUAA, *Submission 67*, p 8.

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## Impact on investment and GDP

5.22 The Department of Climate Change referred to modelling it had commissioned from McLennan Magasanik and Associates:

...the modelling shows that implementation of the expanded RET will, together with the CPRS, drive around \$19 billion in investment in the renewable energy sector in the period to 2020. The modelling also shows that the major impact of the expanded RET will be to bring forward investment in renewable energy generation. In the absence of the RET scheme, the same level of investment in renewable energy generation achieved by 2020 would not occur until 2035 in the reference scenario, which includes the CPRS.<sup>18</sup>

The economic cost of the RET above the CPRS is estimated to be small, at around 0.01 per cent of gross national product from 2010 to 2030.<sup>19</sup>

5.23 A plausibility check on these results came from a company called to the hearing at short notice because it said it would be heavily affected. Murray Goulburn gave evidence that the RET would cost it about \$2 million a year by 2020, which represents less than 0.1 per cent of its annual turnover.<sup>20</sup> It could pass this cost on to its customers for its milk sales. Presumably it will also benefit from the abolition of the Victorian government's VRET. It is hard to imagine the remaining impact which it will need to absorb, offset with efficiencies and abatement or pass back to the supplying farmers would have a significant impact on its overall activity.

### *Committee view*

5.24 As usual with economic modelling, different modellers reach different conclusions based on differing assumptions. In this case, some modellers estimate that the RET scheme will lower electricity prices, some that it will result in modest increases and a few project significant increases. In making an assessment of these results, the Committee has taken into account the professional expertise of the modelling teams; the extent to which their work appears to have been influenced by vested interests; and the extent to which their procedures are transparent and supported by clear economic arguments. On these criteria, the Committee finds most convincing the work suggesting that the RET will not lead to large increases in electricity prices. In turn a modest increase in the relative price of electricity is unlikely to have a significant impact on overall economic growth.

5.25 It is important to remember that the above discussion is about the *impact* of the RET on electricity prices, not about a *forecast* of electricity prices. Electricity

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<sup>18</sup> Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 5.

<sup>19</sup> Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 5.

<sup>20</sup> Mr Robert Poole, Murray Goulburn, *Proof Committee Hansard*, 6 August 2009, p 5.

prices may well be much higher (or lower) in 2020 than now, due to a range of domestic and global factors that have nothing to do with the RET. Indeed the modelling suggests that other factors are likely to swamp the impact of the RET.

## Chapter 6

### Assistance for electricity users

6.1 As with the CPRS, there are plans to assist heavy users of electricity and there have been strong criticisms that such assistance is either excessive or insufficient.

6.2 Regulations will be made to provide partial exemptions under the RET for those activities that are regarded as emissions-intensive trade-exposed activities under the CPRS. The exemptions will apply to either 90 or 60 per cent of the increase in liability in moving from the 9,500 GWh target to the 20,000 GWh target.

6.3 This is a new feature. Under the MRET established by the previous government there were no exemptions or assistance.

6.4 Heavy electricity users argue that the exemption applying to the increase rather than the total gives the impression they are being giving larger subsidies than they really receive. For example, the aluminium industry claims that the '90 per cent' exemption is really only a 55 per cent exemption.

6.5 Industry groups representing electricity users generally oppose the RET. But if the RET does proceed, they want more assistance:

...an industry which is both electricity and emissions intense, aluminium should receive a true 90% exemption from both the current and expanded Renewable Energy Target.<sup>1</sup>

Specifically, if the continuation of the RET is an inevitability – AIGN supports the exemption of trade exposed industry from the effects of the RET as a whole.<sup>2</sup>

6.6 Notwithstanding their attitude of in principle supporting 'reforms aimed at "internalising" environmental costs and risks, most notably with regard to greenhouse gas emissions and the risks associated with climate change', when it comes to assistance, the Business Council say 'the exemption from the expanded RET for EITE activities should be a full exemption'.<sup>3</sup>

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1 By 'true', they mean applying to the total RET requirement, not just to the increase from the MRET. Gladstone Engineering Alliance, *Submission 3*, p 1. A similar claim is made by the Major Employers Group of Tasmania, *Submission 13*, p 4; Australian Aluminium Council, *Submission 62*, p 1; Rio Tinto, *Submission 93*, p 1; Gladstone Industry Leadership Group, *Submission 89*, p 1; A3P, *Submission 96*, p 4; and CSR, *Submission 47*, p 2.

2 Australian Industry Greenhouse Network, *Submission 59*, pp 2-3.

3 Business Council of Australia, *Submission 122*, pp 2 and 8.

6.7 This industry assistance has been criticised by most environmental groups, some renewable energy groups and some academics:

...on the proposal to exclude favoured large electricity consumers from contributing to the costs of the expanded renewable energy target, the first thing to note—as was noted in the Tambling review of the mandatory renewable energy target, where this was also on the table—is that any such exclusion would also undermine the scheme’s basic principle that mandatory renewable energy target liabilities accrue to electricity users in proportion to the quantity of their usage.<sup>4</sup>

There should be no exemptions or assistance packages to industry as a result of the Renewable Energy Target (RET) scheme. Every sector in Australia must contribute to the transition to a low carbon economy. Any exemptions or assistance packages will unevenly and unfairly shift costs from industry to households.<sup>5</sup>

It is of concern that, under the proposal for the extended RET, large energy users...have been granted exemptions on the basis that they would be disadvantaged on the international market. This raises two issues; the first that many of our trading partner countries have renewable energy targets similar to or higher than that proposed for Australia...so there is no need for exemption; and the second that the exclusion of this sector will mean the cost of the Target for the remaining electricity users will rise.<sup>6</sup>

No assistance should be provided to RATE industries on the basis that many other countries have renewable energy targets and/or a higher portion of renewables in their energy mix, assistance has not been warranted in the past, electricity customers already stand to gain economically from there being more renewable energy in the mix and assistance would contravene the polluter pays principle.<sup>7</sup>

6.8 The Australian Conservation Foundation notes that:

...in the US—it is not talked about much— there is a renewable portfolio standard proposed in the Waxman-Markey legislation and in that there are no similar exemptions for energy intensive industries.<sup>8</sup>

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4 Dr Iain MacGill, Joint Director, Centre for Energy and Environmental Markets, *Proof Committee Hansard*, 6 August 2009, p 84.

5 Australian Conservation Foundation, *Submission 61*, p 1.

6 Australian PV Association, *Submission 51*, p 4.

7 Greenpeace Australia, *Submission 43*, p 2.

8 Mr Philip Freeman, Australian Conservation Foundation, *Proof Committee Hansard*, 5 August 2009, pp 76-7.

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## Aluminium industry

6.9 The Committee held a roundtable specifically with aluminium companies as they are such large users of electricity. Indeed, aluminium has been called 'congealed electricity'. The aluminium industry pointed out that Australia's six aluminium smelters:

...are by far the biggest user of electricity within Australia, and the department's own analysis shows that aluminium smelting is an order of magnitude more electricity intensive than any other activity.<sup>9</sup>

6.10 An interesting statistic provided by the aluminium industry was that:

It is an extremely important material for future fuel efficient transport systems and is being increasingly used in cars to lightweight them while maintaining performance through its properties and its safety at low weight, therefore saving fuel. It is equally important in other mass transport systems and aircraft manufacture. I will give you an example. If you replace two kilograms of steel with one kilogram of aluminium in a car, you save about 20 kilograms of CO<sub>2</sub> over the life of that car.<sup>10</sup>

6.11 The implication of this is that placing a price on carbon and raising environmental awareness will actually increase the demand for aluminium. This provides an important offset to the increased costs.

6.12 Concerning the reasons for smelting aluminium in Australia, the Committee was told by the industry that:

The reason we are in this country is because we have distinct competitive advantages: we have the natural resources; we have the integrated supply chain; we have a skilled workforce in operating, trades, leadership and science; and we have competitive energy supplies.<sup>11</sup>

## Annual Reports

6.13 An indication that the impact of the RET is sometimes being exaggerated by companies is the apparent inconsistency between comments by companies concerning likely impacts of the RET and CPRS, and communications to shareholders.

6.14 For example, Dr Xiaoling Liu, President, Primary Metals, Pacific, Rio Tinto Alcan, provided evidence to the committee that the combined cost of the RET and

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9 Mr Alan Cransberg, Managing Director, Alcoa of Australia and Deputy Chairman, Australian Aluminium Council, *Proof Committee Hansard*, 6 August 2009, p 10.

10 Mr Alan Cransberg, Managing Director, Alcoa of Australia and Deputy Chairman, Australian Aluminium Council, *Proof Committee Hansard*, 6 August 2009, p 11.

11 Mr Alan Cransberg, Managing Director, Alcoa of Australia and Deputy Chairman, Australian Aluminium Council, *Proof Committee Hansard*, 6 August 2009, p 11.

CPRS to the company's operations would be \$1.3 billion by 2020, and would harm employment opportunities in regional areas.<sup>12</sup>

6.15 By contrast, the committee heard that the Rio Tinto Alcan annual report for 2008, published early in 2009, noted that production had fallen by 450,000 tonnes per annum, attributable largely to impact of the economic downturn. Despite this, the report contained the following assessment by Mr Tom Albanese, Chief Executive:

The fundamentals of the aluminium industry nevertheless remain strong.

and:

Higher energy costs are raising the aluminium cost curve, particularly in China, to the advantage of lower cost producers like Rio Tinto Alcan.<sup>13</sup>

6.16 This report was published at a time when the government's policies on emissions trading and renewable energy were well known.

6.17 Dr Liu explained that the annual report refers to Rio Tinto Alcan's global operations, (including Canadian assets using hydropower) whilst the evidence to the committee referred to the company's Australian operations.<sup>14</sup>

6.18 Similarly, the committee heard that the 2008 Annual Report from Alcoa makes only general comments relating to risks posed by climate change regulations, and does not foreshadow facility closures or job losses in Australia.<sup>15</sup>

6.19 This information appears inconsistent with evidence provided to the committee by the aluminium industry seeking further compensation under the scheme.

### ***Committee view***

6.20 The Committee notes that the RET will not change most of the factors the industry gives as reasons for operating in Australia. In terms of competitive energy supplies, it notes that other major producers of aluminium such as Canada, China and the United States either have or are introducing comparable renewable energy targets. It therefore regards the currently proposed assistance to the industry as adequate.

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12 Dr Xiaoling Liu, President, Primary Metals, Pacific, Rio Tinto Alcan, *Proof Committee Hansard*, 6 August 2009, pp 11-12.

13 *Proof Committee Hansard*, 6 August 2009, pp 19-20.

14 Dr Xiaoling Liu, President, Primary Metals, Pacific, Rio Tinto Alcan, *Proof Committee Hansard*, 6 August 2009, p. 20.

15 *Proof Committee Hansard*, 6 August 2009, p. 35.

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## Assistance for other organisations

6.21 There were also calls for assistance to other organisations:

... all not-for-profit bodies should be supported in their efforts to meet the energy cost increases that will arise as a result of the Carbon Pollution Reduction Scheme and the Renewable Energy Target Scheme.<sup>16</sup>

## Linkage between CPRS and RET assistance

6.22 The bill states as the commencement date for the industry assistance under the RET 'the same time as section 3 of the CPRS commences'.<sup>17</sup> This implies that while the RET could still operate in the absence of the CPRS, there would be no exemptions or assistance to large polluters.<sup>18</sup>

6.23 The rationale for this linkage was explained by the Department as reflecting arguments from industry:

... a number of firms and industry associations put in a submission to say, 'You should take account of the cumulative impact of the CPRS and the RET,' and ... if you are eligible for emissions-intensive trade-exposed assistance under the CPRS, you would also be eligible for assistance on basically the same rates of assistance as you would for the Renewable Energy Target, representing the cumulative impact of those two policies. One way of thinking about it is that, if you have a dollar of additional cost that comes through either the CPRS or the RET, you get the same rate of assistance for that.<sup>19</sup>

6.24 There was also doubt about whether the impacts of the RET itself were sufficiently large to warrant a compensation package if it were implemented without the CPRS.<sup>20</sup>

6.25 There will be no industry assistance under the RET if the CPRS is rejected, and this has been strongly criticised by a range of witnesses, either because they want

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16 Catholic Health Australia, *Submission 18*, p 3.

17 Renewable Energy (Electricity) Amendment Bill 2009, p 2.

18 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 16.

19 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 22.

20 Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 22. (See the discussion of modelling results in Chapter 3.)

the assistance for themselves or they fear the linkage may lead to the deferral or defeat of the RET bills:<sup>21</sup>

The intention in the bill to link any exemption from this bill for ET activities to the commencement of the CPRS should not be pursued.<sup>22</sup>

There seems to be no reason why they should be linked at all.<sup>23</sup>

The linkage between the bills...has been a poor policy outcome and has detracted from the focus of the bill...<sup>24</sup>

The RET legislation, from our perspective, is a separate piece of legislation and should be considered separately. What we do not want to see is RET held up as a result of concerns or further debate around the CPRS legislation.<sup>25</sup>

We would hate to see the renewable energy target legislation held up based on the CPRS legislation timetable.<sup>26</sup>

### ***Committee view***

6.26 The Committee understands why emissions intensive businesses would like to be paid assistance if the RET bill passes, and therefore would prefer this not be delayed until after the CPRS bills are passed.

6.27 However, if the concern is about business uncertainty delaying or deterring investment, then just decoupling assistance arrangements under the RET from those under the CPRS may not help, as there will still be a large degree of uncertainty about costs and returns for emissions-intensive industries until legislation for an emissions trading scheme is passed. Rejecting the CPRS bill in August would not resolve this uncertainty as the bills would be represented in November. Even if the current CPRS is decisively rejected then, the uncertainty will remain as Labor, the Coalition and Family First all promised at the 2007 election to introduce some form of emissions

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21 In addition to those cited below, this point was made by; BP Solar, *Submission 63*, p 7; Australian Industry Group, *Submission 64*, p 4; Kyocera Solar, *Submission 105*, p 1.; Tomago Aluminium, *Submission 10*, p 1; Business Council of Australia, *Submission 122*, p 8; Bureau of Steel Manufacturers of Australia, *Submission 17*, p 2; AGL Energy, *Submission 39*, p 2 and CSR, *Submission 47*, p 3; Origin Energy, *Submission 53*, p 2; Clean Energy Council, *Submission 112*, p 2; Greenpeace Australia, *Submission 43*, p 3; a number of renewable energy producers at their roundtable, *Proof Committee Hansard*, 6 August 2009, p 53.

22 Ms Maria Tarrant, Director of Policy, Business Council of Australia, *Proof Committee Hansard*, 5 August 2009, p 28.

23 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network, *Proof Committee Hansard*, 5 August 2009, p 43.

24 Professor Ray Wills, CEO, Western Australian Sustainable Energy Association, *Committee Hansard*, 2 July 2009, p 2.

25 Mr Dominic Nolan, Chief Executive Officer, Australian Sugar Milling Council, *Proof Committee Hansard*, 6 August 2009, p 41.

26 Ms Andrea Gaffney, BP Solar, *Proof Committee Hansard*, 6 August 2009, p 53.

trading scheme<sup>27</sup> but differ in the targets and compensation arrangements they would include.

#### **Recommendation 4**

**6.28 The Committee recommends that the Senate pass the bills.**

**Senator Annette Hurley**

**Chair**

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27 Parliamentary Library,  
<http://www.aph.gov.au/library/pubs/ClimateChange/governance/domestic/national/party.htm>  
(accessed 8 August 2009).



# Additional comments by Coalition Senators

## Background

### *The legislation*

The *Renewable Energy (Electricity) Amendment Bill 2009* (the Bill) seeks to establish an expanded Renewable Energy Target (RET) by building on legislation introduced by the Coalition Government in 2000 that established the Mandatory Renewable Energy Target (MRET).

Schedule 1 of the Bill replaces the existing MRET of 9,500 gigawatt-hours (GWh) with an expanded schedule of targets leading to 45,000 GWh in 2020. In conjunction with the 15,000 GWh of installed renewable generation capacity that existed prior to introduction of MRET, the expanded RET will lead to 20 per cent of Australia's electricity being sourced from renewables by 2020.

The *Renewable Energy (Electricity) (Charge) Amendment Bill 2009* (the charge Bill) seeks to increase the shortfall penalty under the RET from its current level of \$40 per MWh to \$65 per MWh.

### *The Coalition's record on renewable energy*

The Coalition acted decisively in Government to provide the legal framework and commercial incentives required by the renewables and waste energy sectors to invest in the development and deployment of new energy technologies that will sustain and secure Australia's electricity supply into the future.

In Government, the Coalition passed legislation in 2000 establishing the MRET scheme giving effect to commitments made by the then Prime Minister John Howard in November 1997.<sup>1</sup> MRET was the first scheme of its kind globally and has been a key factor in the growth of renewable and waste energy electricity generation in Australia.

Since commencement in April 2001, the ORER estimates MRET has encouraged investment in generation capacity of approximately \$5 billion and annual eligible generation capability in the order of 9,000 GWh per year.<sup>2</sup>

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1 John Howard, *Safeguarding the Future: Australia's response to Climate Change*, 20 November 1997.

2 Office of the Renewable Energy Regulator, Fact Sheet: *MRET the basics*, April 2009.

In September 2007, Prime Minister Howard announced a 15 per cent Clean Energy Target (CET) to build upon the gains achieved under the Coalition Government.<sup>3</sup> The measure built upon the success of MRET and provided additional commitments from the Coalition to encourage further investment in renewable and low emissions technologies.

The Coalition Government provided further targeted support to renewables, particularly solar photovoltaics (PV), through the Photovoltaic Rebate Program (PVRP; later renamed the Solar Homes and Communities Plan) and the Renewable Remote Power Generation Program (RRPGP).

The PVRP was announced in May 1999 as part of the *Measures for a Better Environment Package* and began providing rebates on solar PV systems to households, schools and communities from 1 January 2000. The Coalition committed extension funding for the program twice, with an additional \$150 million dollars provided in the 2007-08 Budget to extend the scheme for a further five years and provide for increased household PV rebates of up to \$8,000 and schools and community grants of up to \$12,000.

The RRPGP was also announced in May 1999 and provided 50 per cent rebates for the installation of renewable energy systems to off-grid households, communities, businesses, governments and other organisations that were otherwise reliant on diesel fuel for electricity generation. In August 2006 Prime Minister Howard committed additional funding of \$123.5 million over four years to expand and extend the RRPGP from 1 July 2007.<sup>4</sup>

The Coalition has a strong record of providing support to the renewables and clean energy sectors. In Government, the Coalition acted conscientiously to discharge its responsibilities in providing support and certainty for businesses in the renewables sector. This, regrettably, is a stark contrast to the record of the Labor Government on renewables which has been irreparably blemished by political brinkmanship and the desperate state of Commonwealth finances.

### ***Labor's record on renewable energy***

In just over 18 months Labor has created wide-spread upheaval and anxiety within the renewables sector. Among other floundering election commitments, support for renewables has fallen casualty to Labor's mismanagement of the nation's finances.

The solar industry in particular has suffered at the hands of the Rudd Government.

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3 John Howard, 'A National Clean Energy Target', *Media Release*, 23 September 2007.

4 John Howard, *Ministerial Statement to Parliament on Energy Initiatives*, 14 August 2006.

The first assault was delivered in the 2008-09 Budget when the \$8,000 rebate for solar PV installations was removed for thousands of Australian families. The surprise announcement of a combined household means test of \$100,000 left the solar industry in disarray. Following the announcement the industry estimated Labor's razor-gang cost solar businesses at least \$300 million.<sup>5</sup>

On 9 June 2009 household solar PV rebates were scrapped altogether with less than one day's notice, leaving the solar industry again in disarray. Businesses were forced to scramble to warn customers they had only a few hours to get applications in before the \$8,000 rebate closed.

The replacement rebate provided through the Solar Credits multiplier provides uncertain and potentially less support as the level of the rebate depends on the price of RECs and also the location of installation. Based on a \$50 REC price, solar PV systems installed in Sydney, Perth, Adelaide, Brisbane or Canberra can expect to receive up to \$7,750 while systems installed in cloudier Melbourne or Hobart can only expect up to \$6,650.<sup>6</sup> The Committee was advised in evidence by the Clean Energy Council that the REC price has fallen in recent times to \$37 therefore reducing by almost one-third the potential value of the rebate.<sup>7</sup>

Labor promised the solar PV industry a smooth transition from what was left of the Coalition's \$8,000 rebate to Solar Credits but at the time had not even undertaken to introduce the legislation to Parliament. When finally introduced on 17 June, solar businesses were pushed to panic alarm with the consequences of Labor's brinkmanship inevitably unfolding. The decision to link crucial industry trade assistance measures under RET to passage of its flawed and friendless CPRS had inevitable consequences. Labor's approach was to take its own legislation hostage and put the renewables sector in the objectionable position of political ransom.

Mr Matthew Warren, CEO of the Clean Energy Council, said in a statement prior to the legislation being introduced:

Any political tricky manoeuvre to hold the legislation up now will simply end up being a remarkable own goal.<sup>8</sup>

In giving evidence before the Committee Mr Warren made the following comments on how events subsequently unfolded:

A draft RET Bill was produced in December 2008, and the Bill finally entered the Parliament in June 2009. It was deferred by the Senate a few

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5 Olga Galacho, 'No talks on solar rebate test', *Herald Sun*, 30 May 2008.

6 Department of Climate Change, *Solar Credits: Frequently Asked Questions*, June 2009.

7 Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p. 74.

8 Matthew Warren, '28,000 Australians waiting for a new clean job', *Media release*, 16 June 2009.

days later. This delay is not costless. The Clean Energy Council conservatively estimates that it is costing the emerging clean energy industry more than \$2 million a week. The price of renewable energy certificates fell sharply immediately following the Senate's deferral of the Bill. Orders for solar PV have evaporated, and staff are now being laid off or are idle in clean energy companies across an industry which is supposed to be gearing up to deliver 20 per cent of Australia's electricity in 11 years time.<sup>9</sup>

A third blow to the renewables sector in as many weeks occurred when the RRRGP was prematurely and without notice abolished on 22 June 2009 – this time, leaving solar businesses with no opportunity to push eleventh hour applications. Solar businesses received notification at 8.33am that the program had been abolished three minutes earlier. Extension funding committed by the Coalition in 2006 was to keep the program running until 30 June 2011. However, as the Clean Energy Council acknowledged after the event, the future of the program appeared threatened ever since funding was cut by \$42 million in the 2007-08 Budget.<sup>10</sup>

The Solar Shop described the Government's actions like this:

This is the third set back for the industry in as many weeks. We were promised a smooth transition from the \$8k rebate to the new Solar Credits scheme and instead the old rebate was pulled early with only hours of notice. The Government then fiddled with the Renewable Energy Target policy, making what was a policy with bipartisan support to an un-winnable piece of legislation, and now they have retrospectively pulled the RRRGP which was a very popular and important program.<sup>11</sup>

In giving evidence before the Committee, Ms Andrea Gaffney from BP Solar commented:

Since the termination of both those programs [PVRP and RRRGP], sales in both the grid and the off-grid market have dramatically reduced and many of our customers have indicated that they will be forced to lay off workers if the renewable energy target legislation is not introduced before October. If this occurs, investment triggered in the last 18 months to meet the significant upsurge in demand will be placed at significant risk.<sup>12</sup>

Coalition Senators wish to express our dismay at the Rudd Government's undermining of the significant gains in the renewables sector secured under the Coalition Government.

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9 Matthew Warren, Chief Executive Officer, Clean Energy Council, *Proof Committee Hansard*, 5 August 2009, p. 67.

10 Adam Morton, 'Canberra deals third blow to solar industry', *The Age*, 23 June 2009.

11 Solar Shop, *Media Release*, June 2009.

12 Andrea Gaffney, Government Relations Manager, BP Solar, *Proof Committee Hansard*, 6 August 2009, p. 51.

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## Decoupling and assistance for trade-exposed industry

Decoupling RET from the CPRS has been overwhelmingly supported by submission and evidence to the Committee.<sup>13</sup>

Assistance for trade-exposed industries in the form of exemptions from liabilities under RET is linked to passage of the Carbon Pollution Reduction Scheme Bill 2009 and commencement of the Act. The Coalition will move to give RET the best possible chance of passage through the Parliament by decoupling the Bills.

The issue of decoupling is not however a simple technical amendment.

Trade competitiveness and carbon leakage is at the centre of controversy between Labor, Australia's industry and the Coalition. The debate is not merely a media headline. There are serious flaws in Labor's climate policies that have the potential for large industry closures and job losses. And there will be no bitter-sweet. The costs of exporting Australian production offshore will not come with a global environmental benefit. Industry has been waving the warning flags for months but the public continues to be duped. As has been its approach to many other matters of important public interest, the Rudd Government has been brazen in its dealings with industry and scathing in its assessment of unaccommodating claims. But the charade is beginning to crumble.

Both the Queensland and Victorian Premiers have expressed direct concern to the Government over its flawed CPRS and have recently been joined by the New South Wales Treasurer and Federal Member for Throsby in a growing disquiet among Labor ranks.

In the context of uncertain and possibly incoherent international actions on climate change, the Prime Minister has failed to act to address legitimate concerns of job losses, trade competitiveness and carbon leakage. This applies equally in the case of RET as it does to the CPRS. The failures, if left unaddressed in the Senate, will lead to the loss of sustaining investment in Australia's world-class mining, manufacturing and

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13 BP Solar, *Submission 63*, p 7; Australian Industry Group, *Submission 64*, p 4; Kyocera Solar, *Submission 105*, p 1.; Tomago Aluminium, *Submission 10*, p 1; Business Council of Australia, *Submission 122*, p 8; Bureau of Steel Manufacturers of Australia, *Submission 17*, p 2; AGL Energy, *Submission 39*, p 2; CSR, *Submission 47*, p 3; Origin Energy, *Submission 53*, p 2; Clean Energy Council, *Submission 112*, p 2; Greenpeace Australia, *Submission 43*, p 3; p 53; Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network, *Proof Committee Hansard*, 5 August 2009, p 43; Professor Ray Wills, CEO, Western Australian Sustainable Energy Association, *Committee Hansard*, 2 July 2009, p 2; Mr Dominic Nolan, Chief Executive Officer, Australian Sugar Milling Council, *Proof Committee Hansard*, 6 August 2009, p 41; Ms Andrea Gaffney, BP Solar, *Proof Committee Hansard*, 6 August 2009, p 53; and a number of other renewable energy producers at their roundtable, *Proof Committee Hansard*, 6 August 2009.

agricultural industries and the export of our greenhouse gases to higher emitting nations.

The RET provides for a materially significant expansion in the mandated use of renewable and waste energy-sourced electricity. It will provide additional support for the development of new and emerging industries in Australia. It is appropriate to consider the expanded RET as an industry development measure. However, even on such interpretation, the policy remains inextricably linked to greenhouse gas reductions and therefore bound to the objectives of climate policy. To cast aside legitimate concerns of trade competitiveness and carbon leakage on the basis that RET is an industry development measure, as has been argued by some, is misguided and misleading.

The Victorian and (proposed) New South Wales schemes provide precedence for recognition of the potential for carbon leakage as a result of the imposition of renewable energy mandates. Both schemes have provided in their design, stand-alone protections to maintain trade competitiveness and guard against the export of Australia's greenhouse gases. Under the Victorian scheme, exemptions from liability have been granted for electricity purchases relating to Victoria's aluminium smelters. Under the proposed NSW scheme the Energy Minister can designate exemptions at his or her discretion, with draft documentation indicating that the aluminium, pulp and paper and chemicals industries would be considered in this context.<sup>14</sup>

Results from the Treasury's modelling of the CPRS show that the average cost of reducing greenhouse gases under the expanded RET is around three times more than the cost of reducing greenhouse gases under the CPRS.<sup>15</sup> Coalition Senators have indicated further support for the clean energy sector and will stand by those commitments. In recognition of the implicit costs of RET, the importance of our world-class industries and of the imperative to ensure Australian greenhouse gas reductions contribute to global reductions, the Coalition will move to secure appropriate and stand alone trade-neutrality assistance under RET.

Coalition Senators believe it is imprudent in advance of global agreement and strong multilateral action on climate change for Australia's domestic climate policies to pre-emptively dislocate our industrial base. Labor's campaign against Australia's 'big polluters' is a political con that will damage our trade advantages and do little to prepare the nation for future carbon constraints. It is likely that many existing industries – industries in which Australia has significant capital invested – will remain vital to national and international development, even in a carbon-constrained world.

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14 COAG, Discussion Paper: *Treatment of electricity-intensive trade-exposed industries under the expanded national Renewable Energy Target scheme*, December 2008, p.6.

15 Treasury, *Australia's Low Pollution Future*, October 2008, p.181.

### *The aluminium industry*

The Bill provides eligibility for aluminium smelting to receive a 90 per cent exemption from liabilities that relate to the expansion of the schedule of targets under RET. Exemptions from liability do not apply to: the 9,500 GWh target embedded in the existing MRET legislation; the extension of this target for an additional 10 years; or to potentially higher REC prices provided under the charge Bill. No exemptions from liabilities under the RET are provided in the period before the CPRS commences.

In its submission to the Committee, the Australian Aluminium Council (AAC) made the following comments:

The expanded Renewable Energy Target will impose further additional costs on the aluminium industry in the same manner as much of the CPRS – through increased electricity costs. It addresses similar environmental objectives, operates over similarly long timeframes, and, like the CPRS, is a cost that will only be imposed on Australian producers, not competitors.

In addition to increasing the target for generation of electricity from renewable energy sources, the expanded RET scheme will extend the period of the existing MRET scheme by a further 10 years and significantly increase the cost of Renewable Energy Certificates (RECs) by increasing the shortfall charge from \$57 / MWh to \$93 / MWh (tax adjusted), in effect doubling existing costs. The RET Bill in its current form does not provide any exemptions from these additional liabilities linked to the original MRET scheme, meaning the proposed 90% exemption level for EITE industries (applied only to the increased liability above MRET) actually results in a 55% exemption from overall scheme liabilities.

The Bill in its current form:

- will cost the Australian aluminium industry an additional \$700 million over the first decade of the scheme - costs that will not be paid by producers in other countries. This is in the context of a total combined cost of the proposed RET and CPRS of approximately \$4.0 billion over the first ten years. This is a cost, per-site, per-year, of tens of millions of dollars – imposed only on Australian producers.
- will force most smelters to reduce their workforce and wind back capital expenditure. Each of Australia's aluminium smelters spend in the order of \$50 million annually on sustaining capital. Faced with additional RET costs, much of this local spend on regional employment, equipment and supplies will evaporate.<sup>16</sup>

In giving evidence to the Committee, aluminium industry stakeholders made the following statements on costs, profitability and competitiveness:

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16 Australian Aluminium Council, *Submission 62*, pp. 1, 7-8.

**Rio Tinto Alcan:** Dr Xiaoling Liu, President, Primary Metals, Pacific

Rio Tinto Alcan operates 23 smelters globally. All these smelters sell on to the global aluminium market, and therefore additional regulatory costs in Australia cannot be passed through. Australian smelters compete within Rio Tinto for access to sustaining capital, funds which in the current environment are particularly hard to secure. Australia's smelters have predominantly been in the second quartile on the cost curve—that means below global average cost—and have been well positioned to attract investment. The total cost of climate policy will push Australian smelters into the third and potentially the fourth quartile, where it would be difficult to attract investment to improve operational efficiency and remain competitive, which will inevitably lead to the path of curtailment and even to closure. Early last year, we were fortunate enough to attract \$685 million for significant upgrades at our Boyne smelter in Gladstone. This will not expand production but simply replace some cranes, a carbon baking furnace and provide for some major structural repairs.

This type of investment is required periodically in all smelters to maintain their operational efficiency and asset integrity. In my opinion, unless there are changes to Australia's climate change policy, including this legislation, we will not be able to attract that kind of sustaining capital in the future. The impact will be inevitable, predictable and commercially rational over time. It would be regional communities like Gladstone which will ultimately bear the brunt of this legislation.<sup>17</sup>

**Tomago Aluminium:** Mr Roy Gellweiler, Chief Financial Officer.

In our submission we outlined our main concern, which is the combined effects of both the CPRS and the RET for our company—\$125 million per year by 2020. It is easy to throw numbers around, but I will put that in context. That is equivalent to our current wages bill, which is around \$110 million per year. The cost to us would be the same as if we were actually having to double our 1,200-strong workforce. The current proposal for both the CPRS and RET, as proposed today, would push us up on the world cost curve by a full quartile. Currently we are sitting in the upper end of the first quartile and it would push us to the mid-point. It would jeopardise future investment in the plant. We are not talking about starting to jeopardise investment in 10 years time; we are talking about investment in the coming years, because it is an industry that is very capital intensive with very long-life assets.<sup>18</sup>

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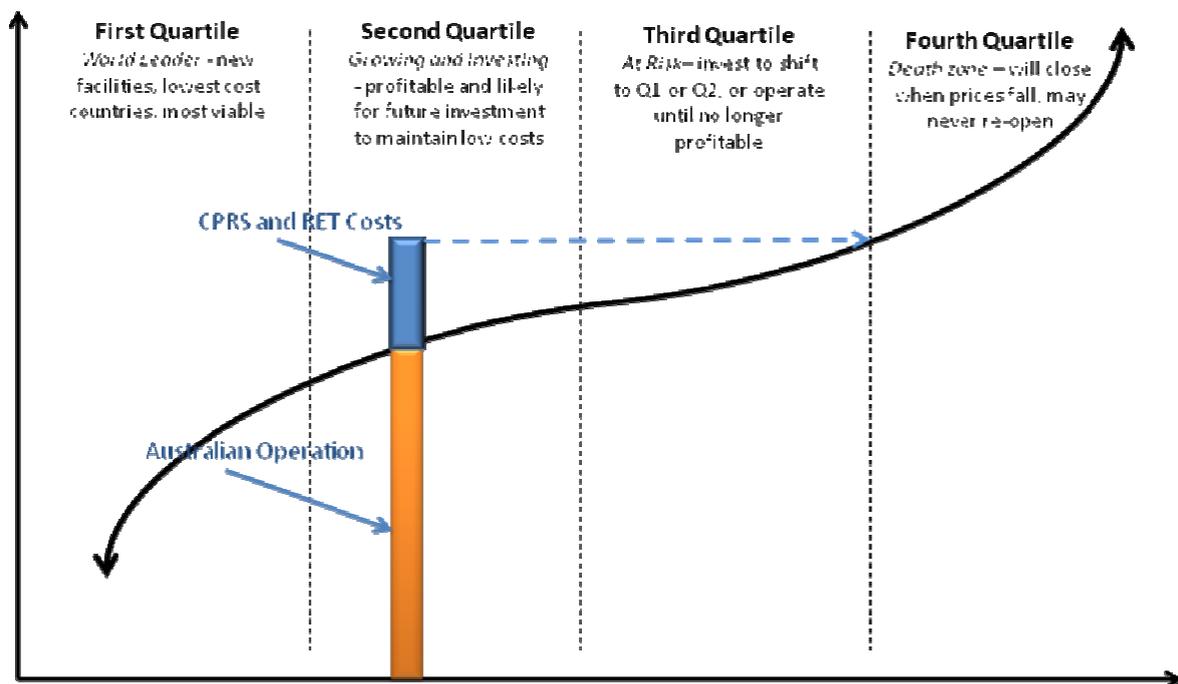
17 Ms Xiaoling Liu, President, Primary Metals, Pacific, Rio Tinto Alcan, *Proof Committee Hansard*, 6 August 2009, p. 12.

18 Mr Roy Gellweiler, Chief Financial Officer, Tomago Aluminium, *Proof Committee Hansard*, 6 August 2009, p. 14.

**Hydro Aluminium:** Mr Trevor Coombe, Head, Global Alumina and Smelter Growth, Oceania

I am really more concerned about slide 5, which highlights the true value of the CPRS and RET on our operation...the costs by 2020...for these two environmental legislations is about \$55 million. Our operation has an average profit of \$65 million. So you can see that the impact is quite dramatic.<sup>19</sup>

The AAC provided the following graphical illustration of the impact of the CPRS and RET on the cost curve of Australian aluminium operations, showing the resultant loss in profitability, viability and investment.



Source: Australian Aluminium Council, *Submission 62*, p 6.

In a future scenario of coordinated global action on climate change it is possible that aluminium will play an increasingly important role as Mr Alan Cransberg, Managing Director of Alcoa, explains:

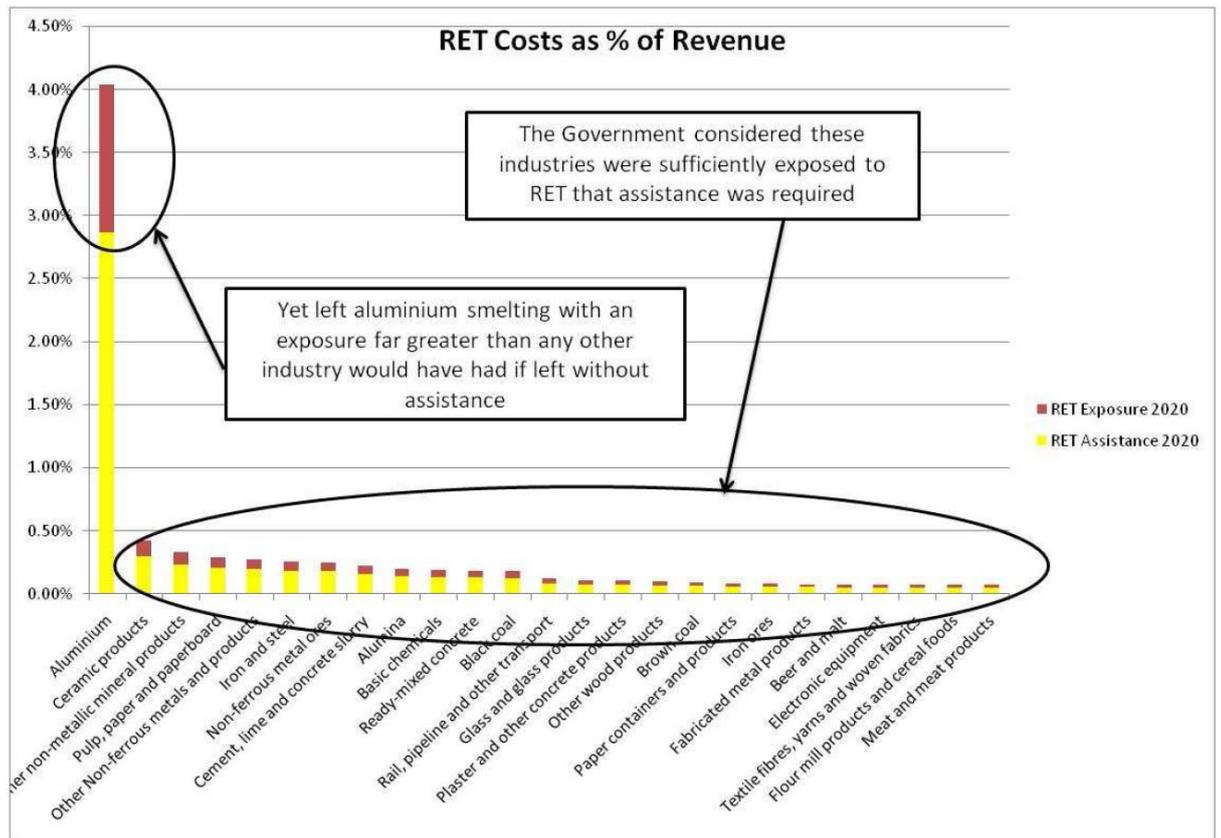
The use of aluminium will be very important as we become more and more carbon-constrained. It is an extremely important material for future fuel efficient transport systems and is being increasingly used in cars to lightweight them while maintaining performance through its properties and its safety at low weight, therefore saving fuel. It is equally important in other mass transport systems and aircraft manufacture. I will give you an

<sup>19</sup> Trevor Coombe, Head, Global Alumina and Smelter Growth, Oceania, Hydro Aluminium, *Proof Committee Hansard*, 6 August 2009, p. 14.

example. If you replace two kilograms of steel with one kilogram of aluminium in a car, you save about 20 kilograms of CO<sub>2</sub> over the life of that car. The realities for all of us is that this is a product that is endlessly recyclable. Seventy-five per cent of the aluminium ever used is still in circulation today and the next time you use it, you use about five per cent of the energy initially used in making that aluminium.<sup>20</sup>

By virtue of its manufacture, aluminium has become colloquially known as the commodity of congealed electricity. In terms of cost exposure to RET, aluminium smelting stands quite apart from other industrial processes. On this point Mr Cransberg from Alcoa made the following comment to the Committee:

Australia is home to six aluminium smelters. We are the key electricity using industry in this debate. We are by far the biggest user of electricity within Australia, and the department's own analysis shows that aluminium smelting is an order of magnitude more electricity intensive than any other activity. If you look at the last page of our submission you can see that that is starkly portrayed by the graph there.<sup>21</sup>



Source: Australian Aluminium Council, *Submission 62*, p 12.

20 Alan Cransberg, Managing Director, Alcoa of Australia, *Proof Committee Hansard*, 6 August 2009, p. 11.

21 Alan Cransberg, Managing Director, Alcoa of Australia, *Proof Committee Hansard*, 6 August 2009, p. 12.

On consideration of evidence presented before the Committee, Coalition Senators view the risks of shifting Australia's world class aluminium production facilities into an untenable investment position is too great. Coalition Senators support the provision of a full 90 per cent exemption for aluminium smelting from RET and MRET liabilities. This could be achieved by legislative recognition of highly electricity-intensive trade-exposed activities as suggested by the AAC.

Coalition Senators note strong support for a full 90 per cent exclusion of aluminium smelting from the Gladstone Regional Council,<sup>22</sup> the Gladstone Engineering Alliance<sup>23</sup> and the Gladstone Industry Leadership Group.<sup>24</sup>

### ***Other emissions-intensive trade-exposed industries***

Coalition Senators support the provision of stand-alone exemptions from liabilities associated with the expanded schedule of targets under RET for emissions-intensive trade exposed activities.

Many of Australia's trade advantages have been built on the basis of secure and cheap supplies of fossil energy. This is the context from which we come and of which we take to global negotiations on climate change. Moving away from our traditional supply of energy is acknowledged to be much more costly for Australia than for other economies. Therefore, it is a false assessment to simply brush aside trade competitiveness issues on the observation that other countries use larger percentages of renewable energy than Australia or have RET schemes in place.

### ***Excluded emissions-intensive trade-exposed industries***

Coalition Senators note that no progress has been made on considering the situation of agricultural processing facilities operating upstream from potentially eligible emissions-intensive trade-exposed agricultural activities under the CPRS. In giving evidence to the Committee, Mr Robert Poole, Government Relations Manager of Murray Goulburn Co-operative, commented that several approaches had been made to Minister Wong's office requesting a meeting to discuss the dairy industry's issues regarding non-eligibility for trade assistance under the CPRS. No response to their request has yet been received.<sup>25</sup> Given coupling of the legislation, these concerns are as equally applicable to consideration of exemptions under RET.

Murray Goulburn estimates its annual liabilities under the CPRS will result in average income losses to its 2,500 farming members in the initial years of the scheme of between \$5,000 and \$10,000. The pass-through of RET liabilities is estimated to

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22 Gladstone Regional Council, *Submission 46*.

23 Gladstone Engineering Alliance Inc, *Submission 3*.

24 Gladstone Industry Leadership Group, *Submission 89*.

25 Robert Poole, Government Relations Manager, Murray Goulburn Co-operative, *Proof Committee Hansard*, 6 August 2009, p. 7.

impose an additional \$1 million cost in the first year of the scheme, rising to over \$2 million by 2020. Prices for dairy commodities are set on international markets and there is no accommodation in prices for additional costs imposed on Australian producers. Increased costs on agriculture processing will inevitably be passed back to Australian farmers.

Mr Poole made the following statement to the Committee on international market conditions for dairy commodities:

Over half [of our product] goes overseas, but of those products we sell in Australia—powders, cheeses, butters—all are freely imported. For example, from New Zealand there are no import restrictions, so the price of cheese in Australia is still established by, essentially, a world market price. We cannot just price cheese however we would want to; otherwise, we would lose market share to the New Zealanders and anyone else who wanted to bring cheese into Australia—the US, for example.

We have tried to be a profitable and successful business, which we have been for many years, but we are already fighting a lot of distortions, as you know, Senator, with subsidies around the world and lack of market access. For example, we cannot get access, generally speaking, to Europe at all. European dairy products at least have some capacity to pass costs through because they are not exposed to imports.<sup>26</sup>

In relation to eligibility to the emissions-intensive trade-exposed program Mr Poole said:

We would easily pass any trade exposure test that you can see around the world. Really where we have been caught is on the emissions intensity test because our most intensive products— powders—are about 600 to 700 tonnes of carbon per \$1 million of revenue. We fall a fair way short on an emission intensity test. Because of the way that the dairy industry is structured, the costs go back to the farmer. There are about 8,000 dairy farmers in Australia now and they are going to pay all of the costs. It is a very narrow focus in terms of where all the costs ultimately lie.<sup>27</sup>

Coalition Senators are sympathetic to the concerns of the dairy processors and other agricultural industries that face immediate income losses as a result of Labor's climate policies imposing costs on processing. Increased production costs can not be passed through and will simply be passed backwards to farming families. This will reduce the viability of Australian farming, lead to the loss of domestic industry and undermine global food security. The Rudd Government must come to the table in good faith and

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26 Robert Poole, Government Relations Manager, Murray Goulburn Co-operative, *Proof Committee Hansard*, 6 August 2009, pp. 5-6.

27 Robert Poole, Government Relations Manager, Murray Goulburn Co-operative, *Proof Committee Hansard*, 6 August 2009, p 4.

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discuss the critical problems agricultural manufacturers have been flagging since late last year.

## **Design features of the renewable energy target**

### ***Eligibility of waste gas power generation***

Submissions have been received from a number of organisations<sup>28</sup> supporting expansion of the eligibility of renewable energy sources to include electricity sourced from waste coal mine gases (WCMG) and waste industrial gases.

MRET provides precedence for the inclusion of waste gas generation as an eligible renewable energy source. Section 17 of the *Renewable Energy (Electricity) Act 2000* provides eligibility for landfill and sewage gas thereby allowing the creation of RECs and providing support for the development of these industries and to reduce greenhouse gases.

The WCMG industry faces particular issues. Similarly to the renewables sector, it has been left in a precarious state by Labor's approach on climate change. Currently, WCMG generators are reliant on the NSW Greenhouse Gas Abatement Scheme (GGAS) for income to sustain their operations. The NSW Government has indicated that this scheme will be prematurely wound up, coinciding with the introduction of the CPRS.

Mr Blair Comley, Deputy Secretary of the Department of Climate Change, made the following comments to the Committee:

Formally, Senator, there is only one renewable energy target scheme in the states, which is the Victorian scheme, and that will effectively be abolished and transitioned into the national scheme. There is not a formal link between the GGAS scheme and the renewable energy target. The GGAS scheme is intended to be wound up as well. It is the view of the New South Wales government that they will wind up that scheme. Both the GGAS and the Victorian renewable energy target scheme will cease and leave the national renewable energy target as the remaining scheme.<sup>29</sup>

Labor has failed to provide any certainty for the WCMG sector. Transitional arrangements from GGAS have not been confirmed or committed. This is threatening jobs and investment in an industry that is actively contributing to greenhouse gas reductions and providing Australia with a secure supply of base-load electricity. It is

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28 Business Council of Australia, *Submission 122*; Australian Industry Greenhouse Network, *Submission 59*; GE Energy Australia, *Submission 86*; Envirogen, Clark Energy and Energy Developments, Joint Submission (confidential), Bureau of Steel Manufacturers of Australia, *Submission 17*.

29 Blair Comley, Deputy Secretary, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p. 15.

alarming and unacceptable that two Labor governments have conspired to remove support for the WCMG industry without any security of support into the future.

The Queensland Government shares the view of Coalition Senators. In a letter to Minister Combet dated 9 July 2009, Queensland Premier Anna Bligh made the following representation to the Rudd Government:

As you would be aware, electricity generation using waste coal mine gas (WCMG) is already providing an efficient and effective means of abating methane from some coal mines. In the medium term, the CPRS is likely to improve the competitiveness of this type of electricity generation relative to more conventional generation sources due to its lower emissions profile. However, in the transition phase to the CPRS, existing investments in the form of generation face an uncertain future given the future abolition of the New South Wales Greenhouse Gas Abatement Scheme (GGAS) upon commencement of the CPRS.

This action will remove a significant incentive that helped underwrite job creating and methane abating projects which currently exist in Queensland – and there is potential to develop more projects of this kind.

As a consequence, existing WCMG projects that are delivering lower emission electricity are at risk of closure with the potential for hundreds of jobs to be lost. Clearly this would be a most perverse outcome. As I indicated to you in my letter of 23 June 2009, the Queensland Government considers that there is a strong case for the Commonwealth to provide adequate transitional assistance to this sector.

Coalition Senators agree and strongly support inclusion of WCMG as an eligible renewable source under RET. This will accommodate the industry's transition requirements from GGAS and provide immediate certainty for jobs in rural and regional Australia and support future investment in this important industry.

GE Energy Australia notes that there is strong international precedence for including WCMG in a RET scheme:

It is important to note that there is strong international precedent for WCMG Renewable Scheme eligibility in France, Germany and the US. For example, the German Legislation on Renewable Energy (EEG) which was ratified on 15th October 2008 by the German Parliament includes WCMG as an eligible fuel. Further, as recently as 21 May 2009, the American Clean Energy and Security Act of 2009 was approved by the Energy and Commerce Committee with this Act also including WCMG as an eligible fuel. Under the proposed CPRS and expanded RET, Australia is now out of step with global precedent.<sup>30</sup>

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30 Andrew Richards, Executive Manager, Government and Corporate Affairs of Pacific Hydro, *Proof Committee Hansard*, 6 August 2009, p. 67.

In giving evidence before the Committee, Mr Andrew Richards, Executive Manager, Government and Corporate Affairs, Pacific Hydro, made the following statement arguing against inclusion of WCMG as an eligible renewable source:

Our primary approach to that at the moment is that that would require a technology review before the legislation is put in place, which we fear would only slow down the legislative process. So we are not in favour of it. We understand that COAG has announced a technology review at a later time. We would encourage it. That would be the time to review that type of technology. Also, looking at coalmine methane, if it were just about building new stuff then so be it, but I understand that some of the people who are agitating for this change want all of their existing assets, some of which were built before the original MRET was in place, to be included in the scheme. That would be a single-purpose change to legislation that everybody else would have to comply with, which I think would open up a can of worms for every other participant in the marketplace.<sup>31</sup>

Coalition Senators note the objective if including WCMG as an eligible renewable source is to provide transition for businesses currently generating sustaining revenues from GGAS. There exists domestic precedence for the inclusion of waste gases in MRET and international precedence for the inclusion of WCMG in similar schemes. A technology review and further delays to implementation of RET is not necessary.

Coalition Senators support consideration of the inclusion of waste industrial gases as eligible renewable sources under RET. In its submission to the Committee, BlueScope Steel and Onesteel make the following comments:

The RET should include as eligible sources the use of industrial by-product gases and waste heat streams (Industrial Waste Gases) to generate electricity. The proposed design of the RET creates an additional cost to major industrial facilities, but provides no incentive to utilise Industrial Waste Gases to generate electricity. Inclusion of Industrial Waste Gases would contribute to the renewable target by generating electricity from waste products and by-products and is consistent with the inclusion of other forms of waste gases as eligible sources under RET.<sup>32</sup>

BlueScope has invested in the order of \$80 million in studying the feasibility of constructing and operating a new cogeneration plant at its Port Kembla Steelworks. As a result of the economic downturn and continuing uncertainty regarding the cumulative cost of the proposed Carbon Pollution Reduction Scheme, the project is currently on hold... the ability of the SCP plant to create certificates under RET would directly affect the financial

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31 Mr Andrew Richards, Executive Manager, Government and Corporate Affairs of Pacific Hydro, *Proof Committee Hansard*, 6 August 2009, p. 67.

32 Bureau of Steel Manufacturers of Australia, *Submission 17*, p. 1.

viability of the proposed project and BlueScope Steel's ability in the future to proceed with the investment.<sup>33</sup>

### ***Electric heat pump water heaters***

The Gas Industry Alliance has brought to the attention of the Committee some significant concerns regarding the eligibility of electric heat pump water heaters to generate RECs.

In giving evidence to the Committee Mr Gregory Ellis from the Gas Industry Alliance made the following representation:

EHP is classified as a solar product under the definitions within ORER. They are wrong. ORER and the supporters of EHP, which is refrigeration water heating, states that they are solar products because they capture the enthalpy—enthalpy being heat—that is available in the atmosphere due to the sun's radiation...ORER, in my view, failed to delineate the performance of EHP across the range of climate variations experienced in Australia. Solar products on the other hand are required to conform to a whole raft of climate variations under the ORER and REC legislation and climate zones 1 to 4. Senators will be well versed in the fact that under different climates there are different solutions to our GHG and electrical consumption issues.

EHP performance has been misrepresented to government because EHP uses best case COP— where we often hear the quoted 300 per cent. It is a magic figure. I can tell you that 300 per cent relates to only a very small operating range in this country. If you look at where the population base is in the latitudes south of Sydney you will find the heat pump has some very serious limitations. They are these: heat pumps do not operate well in conditions above 40 degrees Celsius; heat pumps do not operate well below 10 degrees ambient; and heat pumps do not operate well in geographies with low relative humidities.

All I am asking is that the government institute a process where correct analysis is done and where fair playing fields are created, and I am absolutely categorical that there is no fair playing field in the awarding of 28 to 30 RET points for a heat pump proposition which is based on best case Queensland conditions against the awarding of 30 RET points for a solar system operating in Victoria which has a much lower ambient air temperature and which is required to conform to zone 1, 2, 3 and 4—very detailed performance expectations.<sup>34</sup>

Mr Warring Neilson of the Gas Industry Alliance further commented that a loophole in existing legislation had allowed 'rorting' to occur under MRET:

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33 Bureau of Steel Manufacturers of Australia, *Submission 17*, p. 4.

34 Mr Gregory Roberts, Industry Representative, Gas Industry Alliance, *Proof Committee Hansard*, 5 August 2009, pp. 83-4, 87.

The abuse has come through the fact that in the MRET calculations of calculating RECs there is a loophole that exists in the quantity area in excess of 700 litres when you can put three heat pumps together in parallel and you get a multiplying effect. That means you can put anything up to 30, 40 or 50 heat pumps into an installation for no cost whatsoever. In just one audit we have taken on our own customer base, we have had 30 customers where we have had gas installations in place and they have put in heat pumps to the tune of around \$2.6 million and they have generated RECs of around \$6.2 million. They have been overcapitalised completely and they have just been rorting it to develop RECs. And even tonight I have had a phone call from a plumber in Victoria telling me that the rorting is going on in Victoria where people are pulling out continuous gas flow units and sticking in heat pumps and saying they are replacing electric.<sup>35</sup>

Coalition Senators believe these issues raised by the Gas Industry Alliance should be further considered. A thorough assessment on electric heat pump water heaters needs to be undertaken to assess the performance of these water heaters across various climates and conditions. Regulations should also limit electric heat pump installations in commercial premises to remove an ability of businesses to multiply-out REC creation. Tightening regulations in this respect and providing greater oversight is needed to ensure compliance with the objectives of the Bill, including particularly, in relation to reducing greenhouse gases.

### ***The target***

Coalition Senators do not agree with the Committee's recommendation that there be a corresponding increase in the schedule of targets under the expanded RET if a review in 2014 revises total 2020 electricity demand upwards.

Analysis of Treasury modelling undertaken for the CPRS estimates 2020 electricity demand to be 277,700 GWh<sup>36</sup> thereby implying renewable energy generation as a percentage of total demand will stand at 21.61 per cent.

If revisions are to be made to the targets then this should apply equally to downward adjustments in view of decreased estimates of electricity demand. On consideration of the views expressed by the renewables sector regarding certainty, Coalition Senators are of the opinion that the prospect of downward adjustment would not be welcome.

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35 Warring Neilson, Industry Representative, Gas Industry Alliance, *Proof Committee Hansard*, 5 August 2009, p. 89.

36 Treasury, *Australia's Low Pollution Future*, October 2008, charts 6.25 and 6.29.

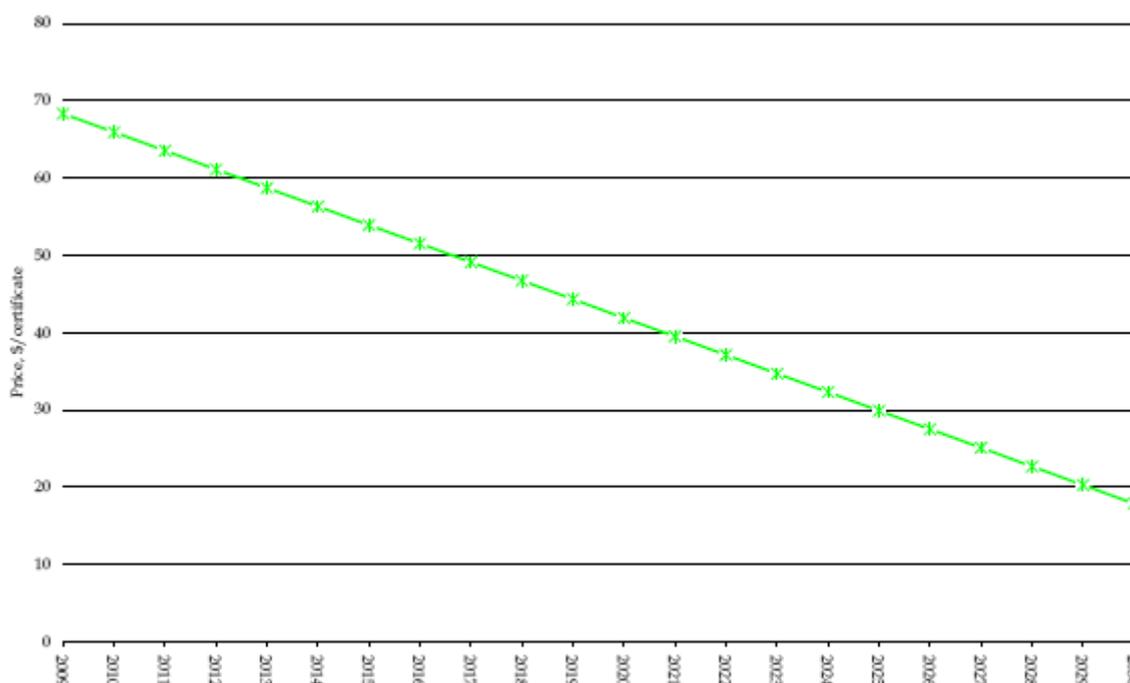
Providing for only upside risk to the renewables sector at the expense of other sectors in the economy is unacceptable, particularly in light of the level of support already provided under the expanded RET.

On the issue of expanding the schedule of targets to compensate for the creation of RECs through the Solar Credit multiplier, Coalition Senators accept the view of the Department of Climate Change that the timing of the phase out in 2015-16 means that Solar Credits will not adversely affect reaching the 20 per cent target by 2020.<sup>37</sup>

### *The shortfall charge*

Coalition Senators do not agree with the Committee's recommendation to review the shortfall charge after any year in which the maximum price for RECs exceeds 80 per cent of the charge.

Government modelling conducted by McLennan Magasanik Associates (MMA) provides the following estimates for REC prices.<sup>38</sup>



The estimates suggest prices will remain at price of greater than 80 per cent of the shortfall charge (\$53) until at least 2015.

37 Department of Climate Change, *Answers to Questions on Notice*, August 2009.

38 McLennan Magasanik Associates, *Benefits and costs of the Expanded Renewable Energy Target*, January 2009, p. 38.

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The shortfall charge does not set a price ceiling. It is a non-tax deductible penalty. Any possible ceiling established by the shortfall charge will reflect a tax adjusted assessment of the penalty, which at the current rate of company tax is \$93.

### ***Banding and banking***

Coalition Senators acknowledge the concerns expressed by the geothermal industry regarding the reduced incentives for the development and deployment of technologies that are not yet to market and/or have not yet come sufficiently down the cost curve to be competitive against other renewable technologies.

The coalition does not believe the Government has provided a solution to the problem and believes the Government should consult with industry to discuss this issue. Coalition Senators accept arguments submitted regarding the impact of the unlimited banking of RECs in crowding out later investments and therefore support investigations into the benefits and costs of allowing the unlimited banking of RECs. The Committee's recommendation to assess this as part of a 2014 review is highly inappropriate. This will be too late to resolve the issue if it is determined to be of materially significant consequence as to require restrictions on banking. Banking can not be addressed retrospectively without significant cost to taxpayers. It is therefore appropriate for the issue to be considered as soon as possible.

### **Costs and employment**

Some arguments were presented to the Committee proposing a net negative effect of RET on retail electricity prices through downward pressure on prices in wholesale electricity markets. Modelling conducted for the Government by MMA found however that:

Wholesale electricity prices for the period 2010 to 2020 average \$66/MWh for the Reference scenario. The difference in price with the expanded RET is -5% to 8% over the entire period, with an average increase of 0.5%. The [downward] impact of RET is limited in these scenarios as additional renewable generation is matched by deferment of fossil fuel generation capacity and some additional retirement of existing plant. Additional volatility caused by the variable patterns of wind generation also increase prices.

Retail prices, however, are expected to increase by around 3.0% in the period to 2020 and 3.7% in the period from 2021 to 2030. The increase is due to the added cost of purchasing certificates, which can add up to \$4/MWh to retail prices in the period to 2020, and around \$6/MWh in the period after 2020.<sup>39</sup>

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39 McLennan Magasanik Associates, *Benefits and Costs of the Expanded Renewable Energy Target*, January 2009, pp. 40-1.

Coalition Senators acknowledge that the expansion of MRET will impose additional costs on businesses and consumers.

While modest in percentage terms, the expected increase in retail electricity prices can amount to large costs for business and these should not simply be overlooked. For example, Catholic Health Australia advised the Committee of the following:

There will be adverse impacts on not-for-profit health and aged care service providers as a result of the implementation of the Renewable Energy (Electricity) Amendment Bill 2009 to the extent that the Bill will see an increase in energy costs for health and aged care services. We estimate this adverse impact on Catholic Hospitals in 2010 to be \$650,000, leading to \$1,685,000 in 2020. The adverse impact for Catholic aged care services will be \$365,841 in 2010, growing to \$1,035,261 in 2020. Accordingly, the total cost of the Bill for Catholic health and aged care providers is likely to total \$1,022,436 in 2010, raising to \$2,720,591 in 2020.<sup>40</sup>

The impact of renewable energy mandates, by increasing the price of electricity, ultimately impacts on profitability and potential employment in other productive sectors of the economy. Schemes that establish a market framework to provide subsidies from electricity users to higher cost renewable energy generators will undoubtedly create new jobs in the renewables and waste energy sectors. These are not costless, however, and have the potential to displace workers in other parts of the economy. This is the major thesis of the work undertaken by Dr Gabriel Calzada of the Juan Carlos University on Spain's renewable energy policies. The study found that:

- Since 2000 Spain spent € 571,138 to create each "green job", including subsidies of more than 1 million per wind industry job.
- The programs creating those jobs also resulted in the destruction of nearly 110,000 jobs elsewhere in the economy, or 2.2 jobs destroyed for every "green job" created.
- Principally, these were lost in metallurgy, non-metallic mining and food processing, beverage and tobacco.
- Each "green" megawatt installed destroys 5.28 jobs on average elsewhere in the economy: 8.99 by photovoltaics, 4.27 by wind energy, 5.05 by mini-hydro.<sup>41</sup>

Coalition Senators do not take a view on the appropriateness of using this report to make comparisons to Australia's policies and circumstances, but simply note that reducing greenhouse gases by providing support to the renewables sector is not costless. As noted above, this is supported by Treasury's modelling, which shows

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40 Catholic Health Australia, *Submission 18*, p. 2.

41 Gabriel Calzada, *Study on the Effects of Employment of Public Aid to Renewable Energy Sources*, March 2009, p. 2.

greenhouse gas reductions achieved under RET will cost an average of three times more than reductions under the CPRS.

In view of the Committee's view to accept the results of modelling undertaken by MMA for the Treasury finding the RET having a significant positive impact on employment in the renewables sector, Coalition Senators note that this modelling was undertaken for the Climate Institute.<sup>42</sup>

## **Conclusion**

Coalition Senators have indicated further support for expansion of renewable and clean energy technologies and will stand by those commitments. The Coalition supports the Government's target.

A final position on the Bills is reserved pending the Government's response to, and approach on, decoupling schedule 2 of the Bill from passage of the CPRS. This must:

- accommodate existing exemptions to emissions-intensive, trade exposed industries in stand-alone RET legislation;
- provide a full 90 per cent exemption for aluminium smelting from the RET and the MRET; and
- provide certainty and continued support to the WCMG industry by including WCMG as an eligible renewable source under RET.

The Government must move to address the costs imposed on agricultural processing facilities. These are significant and will ultimately be borne by farming families in industries the Government considers will be classified as emissions-intensive, trade-exposed.

The Government must move to address issues associated with electric heat pump hot water systems by reviewing technology performance and tightening regulatory controls.

**Senator Barnaby Joyce**

**Senator Alan Eggleston**

**Deputy Chair**

**Senator Ron Boswell**

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42 Meghan Quinn, General Manager Macroeconomic Modelling, Treasury, *Proof Committee Hansard*, pp. 8 & 10; Department of Climate Change, *Answers to Questions on Notice*, August 2009.



# Minority report by Senator Xenophon

## Introduction

The purpose of the Renewable Energy (Electricity) Amendment Bill 2009 is to expand the current Mandatory Renewable Energy Target (MRET) as well as replace a range of state and territory schemes into one national scheme. The primary aim of these changes is to have at least 20 per cent of Australia's electricity supply coming from renewable sources by 2020.

The method by which this is proposed to be achieved is through the creation, purchase and surrender of Renewable Energy Certificates (RECs). While the majority of these RECs will be created by accredited power suppliers, other sources may also create RECs. These sources may include eligible solar water heaters and other smaller generation unit installations.

Liable entities will be required to purchase and surrender RECs to cover a percentage of energy purchased. Currently, this is 3.64 per cent, which in practice means that in 2009 a liable entity purchasing 100,000 MWh will have to purchase 3,640 RECs. Failure to purchase and surrender the appropriate level of RECs will result in a shortfall charge of \$65 per megawatt-hour.

The intended outcome of this bill is to increase the current annual renewable energy targets from 9,500 gigawatt-hours (GWh) to 45,000 GWh by 2020.

While I broadly support the proposed aims, approach and outcomes of this bill, throughout the Economics Legislation Committee inquiry a number of anomalies were highlighted. This minority report address each of these anomalies in turn.

## Specific provisions of the bill

### *Solar credits and the impact on the solar industry*

Witnesses noted that the hiatus between the end of the solar rebates scheme and the commencement of solar credits within the RET was harming their industry. The solar credits mechanism allows owners of small scale renewable energy systems, such as household photovoltaic systems, to earn multiple RECs.

These 'phantom credits' will result in a small solar panel earning five times more RECs that it would otherwise generate. While this multiplier will decline over the next five years, it still provides a clear incentive for the public to purchase solar systems. Witnesses from the solar industry reported a dramatic decline in orders for solar PV since the end of the rebates and with the referral of the bill to committee, as well as a substantial loss in revenue and job losses.

It was also noted by witnesses, such as Adrian Ferraretto of the Solar Shop in South Australia, that a growth in the solar industry in the medium term is vital to the successful transition to renewable energy sources and meeting renewable energy targets in the longer term. The solar industry needs to be strong by 2015 when it is projected that cost of installing panels is equivalent to purchasing from a utility. The Australian solar panel industry needs initiatives such as 'phantom credits' to assist in its transition over the next five to ten years.

However, 'phantom credits' should be offset to the extent necessary to ensure that there is no delay in achieving the targets in the bill.

The short and long term viability of the solar industry in Australia is a matter of great concern, and should be supported by the swiftest responsible passage of the RET.

### ***Provisions for natural gas***

The Australian Industry Greenhouse Network (AIGN) drew on Productivity Commission data, Treasury modelling and the Garnaut report to express concern over the impact of the RET on natural gas, and its role in transitioning away from coal fired generation.

Mr Hitchens from AIGN stated that mandating gigawatt hours from renewable energy:

...effectively squeezes out gas fired generators, because they are the next best technology for reducing emissions in electricity generation. What we should have expected in the absence of a MRET is that gas fired generation will replace coal fired generation – that is, we will stop building new coal fired generation and we will build gas fired generation instead. What that the MRET does is effectively take away that market from the gas fired generator, because it has already assigned that part of the market to renewable generators.<sup>1</sup>

There is real concern is that this will effectively discourage the use of natural gas, which is 40 to 50 per cent cleaner than coal and have the unintended consequence of inhibiting the transition from coal fired generation to renewable energy sources. Clearly, natural gas is an important transitional fuel for lower emissions.

### ***The inclusion of water heat pumps***

Another matter that was subject to contention was the inclusion of heat pumps within the RECs scheme. An important distinction between solar heat pumps and refrigerated heat pumps seemed to have been overlooked in the definition of eligible renewable energy sources.

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1 Mr Michael Hitchens, Chief Executive Officer, Australian Industry Greenhouse Network, *Proof Committee Hansard*, 5 August 2009, p. 49.

While the Department of Climate Change argued that all heat pumps should be included because of their relative efficiencies, other industry representatives argued against the inclusion of heat pumps that did not absorb solar radiation to create energy.

Further, the huge compensation being provided in the RET to all heat pumps, including air sourced (refrigerated) heat pumps, is a disincentive to people taking up solar water heating options.

Currently, the Government, working with COAG, have instigated a review into the place of heat pumps within the RET.

Evidence clearly indicated that having heat pumps included in the scheme is seen by many as a rort and environmentally ineffective.

### ***Providing for base-load power through geothermal energy***

Submissions to the inquiry indicated that there may be practical limits to increasing electricity from renewable sources because many renewable sources are not able to provide and maintain baseload power.

As the CSIRO,<sup>2</sup> amongst other witnesses, indicated, geothermal energy is one of the emerging renewable technologies that is looked upon as likely to deliver baseload energy.

The Australian Geothermal Energy Association (AGEO) submission warns that the RET in its current form does not provide for the required acceleration in the development of emerging renewable technologies, as neither industry nor the investment community have confidence in the RET incentives. In her evidence to the committee, AGEA CEO, Susan Jeanes, explained:

...that the incentives under offered under the scheme might not be available by the time geothermal projects and other emerging renewable energy technology projects were ready to come onstream... It is in this context that we express our concern that the RET scheme will in fact defer the development of geothermal energy projects in Australia...<sup>3</sup>

There remains real concerns that without significant changes to the RET then geothermal energy will be stunted in its development in this country.

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2 Dr John Wright, Adviser, Sustainable Energy Partnerships, *Proof Committee Hansard*, 5 August 2009, pp 38-9.

3 Ms Susan Jeanes, Chief Executive Officer, Australian Geothermal Energy Association, *Proof Committee Hansard*, 5 August 2009, p 51.

## **Review of cost effectiveness of RET measures**

Various submissions to the inquiry expressed concern both that the RET in its current form would not encourage a diverse range of renewable energies in Australian in the future, and it would not be cost effective relative to the investment made in these renewable sources.

Such questions about the cost effectiveness of the RET, particularly in relation to return for investment in renewable energies, are worthy of independent review.

## **Linking the RET and CPRS**

Significant consideration was given to the appropriateness of the Government linking the RET to the passage of the CPRS legislation.

Beyond the clear political motives behind the Government position, the Department explained that the linkage was necessary to address the cumulative impact of the introduction of the two policies and because the CPRS provides a regulatory framework within which the RET would operate.

However, witnesses to the committee indicated that in practice the delinking of the CPRS and the ETS is a simple drafting exercise whereby the definition of Emission-Intensive Trade-Exposed industries was inserted into the RET bill. Further, the regulatory environment is within the Government's control and this is not an insurmountable challenge, if a challenge at all.

I support the delinking of the CPRS and RET bills.

## **Recommendations**

### **Recommendation 1**

**That the RET be supported as swiftly as is responsibly possible, taking into account the anomalies highlighted in this report.**

### **Recommendation 2**

**That further consideration be given to mechanisms to include natural gas within the RET.**

### **Recommendation 3**

**That air sourced heat pumps be removed from the RET scheme.**

**Recommendation 4**

**That incentives be provided through the RET for geothermal energy providers based on the provider's capacity to meet criteria to consistently provide baseload power.**

**Recommendation 5**

**That an independent review be conducted to report on the diversity of renewable energy access to the RET and the cost effectiveness versus environmental impact of this access.**

**Recommendation 6**

**That the CPRS and RET bills be decoupled.**

**Senator Nick Xenophon**



# Minority Report from the Australian Greens

The Greens support the Renewable Energy Target legislation and believe there was no need for this Senate Inquiry, the primary objective of which was to buy time for the Coalition who found themselves wedged by Government's cynical move to link the compensation provisions of the Renewable Energy Target Bill to the Carbon Pollution Reduction Scheme Bill.

Further, the Greens believe that no substantive information was presented to the Committee that was not already well understood when the Rudd Government came to power 21 months ago. As this Bill is a simple amendment to an existing Act that is supported by the Coalition, there can be no justification for the long delay in its introduction. Along with the sudden scrapping of schemes such as the Solar Homes and Communities Program and the Renewable Remote Power Generation Program, this delay is evidence of the contempt with which the renewable energy sector is regarded by both the Rudd Government and the Coalition. Both prioritised the interests of the large polluters and their exemptions over the renewable energy industry. The contrast with the Government and the Coalition obsequience to the fossil fuel sector could not be starker.

The Greens position with regard to the Committee's recommendations are as follows:

## **Recommendation 1**

Not supported. The evidence presented to the committee confirms that the long-term projection of electricity generation is difficult, so one review in the year 2014 is inadequate. The Greens believe it would be better to have the Renewable Energy Target expressed as a percentage target, with an annual projection of how such targets translate into a GWh target, for each year of the scheme.

## **Recommendation 2**

Supported. The Greens recommend in addition that a review of the adequacy of the target should be triggered if the REC price falls below a set threshold. An appropriate threshold would be if the REC price falls below \$40 for a period exceeding six months.

## **Recommendation 3**

Not supported. The Greens believe that to avoid further boom and bust cycles and consistent with most schemes internationally, the banking of RECs should be limited to about four years. Unlimited banking acts as a disincentive to later investors.

## **Recommendation 4**

The Greens support the passage of the Bill but will seek to amend the Bill to, *inter alia*:

- Increase Renewable Energy Target to 30% by 2020.
- Express the target in percentage terms rather than as a set GWh target.
- Replace the multiplier for small generators with a gross national feed-in tariff law which is additional to the RET, to support emerging technologies. If this is unsupported then:
  - In relation to the multiplier, remove the 1.5kW cap for PV systems and increase the cap to 10kW for other technology types such as small wind and hydro.
  - Add each years 'phantom RECs' to the following year's target.
- Exclude solar hot water, heat pumps and wood waste from native vegetation from the scheme.
- Limit banking of RECs to four years.
- Delete the provisions to compensate the Emission Intensive Trade Exposed industries.
- Review the operation of the scheme and the adequacy of the target every two years or if the REC price drops below a threshold \$40 for a period of six months.

Further, the Greens note that the plight of off-grid renewable generators is not discussed by the Committee Report. Evidence presented to the Committee indicated that the RET would only provide 20 per cent of the support that had been provided by the recently axed Renewable Remote Power Generation Programme. The Greens amendment to remove the Bills provision which restricts the multiplier to the first 1.5 KW for PV systems is particularly important to correct this mistake.

Finally, we note that paragraph 4.28 of the Committee Report misrepresents the position of the Clean Energy Council. The CEC supports the RET, but they also support a gross feed-in tariff for small scale systems.

**Senator Christine Milne**  
**Australian Greens Spokesperson on Climate Change and Energy**

# APPENDIX 1

## Submissions Received

<b>Submission Number</b>	<b>Submitter</b>
1	Solar-Wind-Systems Pty Ltd
2	Professor Andrew Blakers
3	Gladstone Engineering Alliance Inc
4	Air Solar Bundaberg
5	Todae
6	Mr Tim Kelly
7	Griffin Energy
8	Pacific Hydro
9	WWF-Australia
10	Tomago Aluminium
11	Solar Unlimited
12	SolarCo Margaret River Pty Ltd
13	Tasmanian Major Employers Group (MEG)
14	Australian Forest Growers
15	Mr Michael Howes
16	Institute of Public Affairs
17	Bureau of Steel Manufacturers of Australia (BOSMA)
18	Catholic Health Australia
19	Moreland Energy Foundation Limited
20	Carbon Market Economics Pty Ltd
21	Mr Greg Buckman
22	Mr Shane McDougall
23	Mr Tom Quirk
24	Solahart Lismore
25	Margaret Blakers, Green Institute
26	Ms Margaret Langoulant
27	Mr Ian Gittus
28	Mr David Murray
29	Mr Chuck Bartle
30	Mr Bill Arnold
31	Ms Nicole Aleckson
32	Mr Sean Manners
33	Mr Roger McMillan
34	Mr Jason Sharam
35	Mr Eugen Zwyer
36	Ms Tina Donovan
37	Mr Ted Zacharyga
38	Ms Mary-Anne Naumann
39	AGL Energy
40	Hydro Tasmania
41	Mr Paul O'Brien
42	Alcoa of Australia

43	Greenpeace Australia Pacific
44	Conergy Pty Ltd
45	Geodynamics Limited
46	Gladstone Regional Council
47	CSR Limited
48	Ms Harriett Swift
49	Confidential
50	Mr Peter Bell
51	Australian PV Association
52	The Solar Guys
53	Origin
54	Mr Robert Gishubl
55	Ms Prue Acton
56	Lawyers For Forests Inc
57	Gas Industry Alliance
58	Elgas
59	Australian Industry Greenhouse Network
60	Australian Geothermal Energy Association
61	Australian Conservation Foundation
62	Australian Aluminium Council
63	BP Solar
64	Australian Industry Group
65	Rio Tinto
66	APPEA Australian Petroleum Production and Exploration Association Ltd
67	Energy Users Association of Australia
68	Dr Hugh Saddler
69	Solar Inverters Pty Ltd
70	Mr Rob Willis-Jones & Mrs Sandra Willis-Jones
71	Solaris Technology
72	Ms Anita Lobegeiger
73	Mr Martin Kamener
74	Ms Christene Wildman
75	Mr Paul O'Brien & Mrs Margaret O'Brien
76	The Wilderness Society
77	Ms Beverley Grant
78	Mr Richard Weir
79	Justice & International Mission Unit, Synod of Victoria and Tasmania, Uniting Church in Australia
80	Confidential
81	LMS Generation Pty Ltd
82	Mr Rob Zadow & Mrs Leonie Zadow
83	Mr Michael Jakob
84	Boyne Smelters Limited
85	Ogden Power
86	GE Energy Australia
87	Confidential
88	Greenbank Environmental
89	Gladstone Industry Leadership Group
90	Silcar Pty Ltd
91	Ausra Pty Ltd
92	Australian Ethical Investment Limited

93	Rio Tinto Alcan Bell Bay
94	National Association of Forest Industries
95	Bellingen Solar
96	A3P
97	Solar Systems Pty Ltd
98	Great Southern Solar
99	Sun Empire Solar Systems
100	Green Energy Markets
102	Eureka Funds Management Limited
103	Heather Kenway
104	Australian Sugar Milling Council
105	Kyocera Solar Pty Ltd
106	RF Industries Pty Ltd
107	Suzlon Energy Australia Pty Ltd
108	Mr Scott George
109	Mr Brian Allen
110	SIMCOA Operations Pty Ltd
111	National Farmers' Federation
112	The Clean Energy Council
113	Emerging Technologies
114	Ecovibe Pty Ltd
115	Ceramic Fuel Cells Limited
116	Bosch
117	Electric Biz Pty Ltd
118	Mr Colin James and Mrs Gail James
119	Investor Group on Climate Change
120	Ms Meredith McKenzie
121	Modern Solar
122	Business Council of Australia
123	Rheem Australia Pty Ltd
124	Mr Ern McAllister
125	Confidential
126	Environment Business Australia
127	Queensland Resources Council
128	Confidential
129	Vestas – Australian Wind Technology Pty Ltd
130	Solar Shop Australia Pty Ltd
131	Australian Dairy Industry Council Inc
132	Centre for Energy and Environmental Markets
133	Northern Territory Government

## **Additional Information Received**

- Received on 5 August 2009 from the Australian Conservation Foundation. Answers to Questions on Notice taken on notice on Wednesday 5 August 2009.
- Received on 5 August 2009 from the CSIRO. Answers to Questions on Notice taken on notice on Wednesday 5 August 2009.
- Received on 5 August 2009 from the AIGN Australian Industry Greenhouse Network. Answers to Questions on Notice taken on notice on Wednesday 5 August 2009.
- Received on 6 August 2009 from the Department of Climate Change. Answers to Questions on Notice taken on notice on Wednesday 5 August 2009.
- Received on 6 August 2009 from AGEA Australian Geothermal Energy Association. Answers to Questions on Notice taken on notice on Wednesday 5 August 2009.
- Received on 9 August 2009 from the Clean Energy Council. Answers to Questions on Notice taken on notice on Wednesday 5 August 2009.
- Received on 7 August 2009 from Pacific Hydro. Answers to Questions on Notice taken on notice on Thursday 6 August 2009.
- Received on 7 August 2009 from IT Power. Answers to Questions on Notice taken on notice on Thursday 6 August 2009.
- Received on 7 August 2009 from Greenpeace. Answers to Questions on Notice taken on notice on Thursday 6 August 2009.
- Received on 7 August 2009 from the Australian Sugar Milling Council (ASMC). Answers to Questions on Notice taken on notice on Thursday 6 August 2009.
- Received on 9 August 2009 from the Department of Climate Change. Answers to Questions on Notice taken on notice on Thursday 6 August 2009.
- Received on 11 August 2009 from IT Power. Answers to Questions on Notice taken on notice on Thursday 6 August 2009.

### **TABLED DOCUMENTS**

#### **Canberra ACT**

##### **Wednesday 5 August 2009**

- Senator Hon R Boswell  
*Australian Industry Greenhouse Network*

#### **Canberra ACT**

##### **Thursday 6 August 2009**

- Australian Sugar Milling Council  
Mr Dominic Nolan, Chief Executive Officer  
*'Potential Sugar Industry Cogeneration – RET Dependant'*
- Mackay Sugar Ltd  
Mr Charles Westcott, Chairman  
*'Building a Renewable Biomass Cogeneration Project'*

## **APPENDIX 2**

### **Public Hearings and Witnesses**

#### **PERTH, THURSDAY 2 JULY 2009**

WILLS, Professor Ray, Chief Executive Officer  
Western Australian Sustainable Energy Association

#### **CANBERRA, WEDNESDAY 5 AUGUST 2009**

COMLEY, Mr Blair, Deputy Secretary  
Department of Climate Change

ELLIS, Mr Gregory, Industry Representative  
Gas Industry Alliance

FREEMAN, Mr Philip, Climate Change Campaigner  
Australian Conservation Foundation

GORDON, Mr Robert, Executive Director  
Renewable Fuels Australia

HARCUS, Mr Peter, Chairman, Gas Committee  
Gas Industry Alliance (Energy Networks Association representative)

HITCHENS, Mr Michael, Chief Executive Officer  
Australian Industry Greenhouse Network

JACKSON, Mr Rob, General Manager, Policy  
Clean Energy Council

JEANES, Ms Susan, Chief Executive Officer  
Australian Geothermal Energy Association

KNIGHTS, Mr Alan, Honorary Secretary  
Australian Geothermal Energy Association

LIVINGSTON, Mr Andrew, Renewable Energy Regulator  
Office of the Renewable Energy Regulator

NEILSEN, Mr Warring, Manager, Corporate Affairs, Elgas; and  
Chairman, Gas Industry Alliance

QUINN, Ms Meghan PSM, General Manager, Macroeconomic Modelling Division  
Department of the Treasury

RAETHER, Mr Robert, Assistant Secretary, Renewables and Reporting Branch  
Department of Climate Change

TARRANT, Ms Maria, Director, Policy  
Business Council of Australia

WARREN, Mr Matthew, Chief Executive Officer  
Clean Energy Council

WATTS, Ms Emma, Senior Policy Adviser  
Australian Industry Greenhouse Network

WRIGHT, Dr John, Adviser, Sustainable Energy Partnerships  
CSIRO

**CANBERRA, THURSDAY 6 AUGUST 2009**

BROOKS, Mr Warren, Environment and Sustainability Manager  
Tomago Aluminium

COMLEY, Mr Blair, Deputy Secretary  
Department of Climate Change

COOMBE, Mr Trevor, Head, Global Alumina and Smelter Growth, Oceania  
Hydro Aluminium

CRANSBERG, Mr Alan, Managing Director  
Alcoa of Australia

GAFFNEY, Ms Andrea, Government Relations Manager  
BP Solar

GELLWEILER, Mr Roy, Chief Financial Officer  
Tomago Aluminium

JOHNSON, Ms Marghanita, Manager, Climate Change  
Rio Tinto Alcan

LIU, Dr Xiaoling, President, Primary Metals, Pacific  
Rio Tinto Alcan

LONGDEN, Mr Gary, Director  
Australian Sugar Milling Council

MacGILL, Dr Iain, Joint Director (Engineering)  
Centre for Energy and Environmental Markets

McALPINE, Mr Ken, Government Relations Manager, Asia Pacific Region  
Vestas Wind Systems

McAULIFFE, Mr Tim, General Manager, Corporate Affairs and Carbon Strategy  
Alcoa of Australia

MORIARTY, Mr Mark, Member Representative  
Australian Sugar Milling Council

NELSON, Mr Tim, Head of Carbon and Sustainability  
AGL Energy

NOLAN, Mr Dominic, Chief Executive Officer  
Australian Sugar Milling Council

POOLE, Mr Robert  
Murray Goulburn Co-operative

POWER, Mr John, Director  
Australian Sugar Milling Council

PROSSER, Mr Miles, Executive Director  
Australian Aluminium Council

RAETHER, Mr Robert, Assistant Secretary, Renewables and Reporting Branch  
Department of Climate Change

RICHARDS, Mr Andrew, Executive Manager, Government and Corporate Affairs  
Pacific Hydro

STOCKEN, Mr Tony, Regional Manager  
BP Solar

THORNTON, Mr Kane, Senior Adviser Renewable Energy Policy  
Hydro Tasmania

TROMAN, Mr Simon, Managing Director  
IT Power (Australia) Pty Ltd

UPSON, Mr Jonathan, Development Manager  
Infigen Energy

VINCENT, Mr Julian, Climate and Energy Campaigner  
Greenpeace

WATT, Dr Muriel, Project Manager  
IT Power (Australia)

WESTCOTT, Mr Charles (Eddie), Chairman of the Board  
Mackay Sugar Ltd