

The Senate

Environment, Communications
and the Arts
Legislation Committee

Renewable Energy (Electricity) Amendment Bill 2010
[Provisions]

Renewable Energy (Electricity) (Charge) Amendment
Bill 2010 [Provisions]

Renewable Energy (Electricity) (Small-scale Technology
Shortfall Charge) Bill 2010 [Provisions]

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Recommendations

Recommendation 1

3.70 The committee recommends that the government consider mechanisms to manage potentially high demand under the Small-scale Renewable Energy Scheme.

Recommendation 2

4.20 The committee recommends that, subject to the recommendation contained elsewhere in this report, the Senate pass the Renewable Energy (Electricity) Amendment Bill 2010 and two related bills during the 2010 winter Parliamentary sittings.

Abbreviations

COAG	Council of Australian Governments
CPRS	Carbon Pollution Reduction Scheme
DCCEE	Department of Climate Change and Energy Efficiency
EITE	Emissions-intensive trade-exposed
GWh	Gigawatt-hour
LRECs	Large-scale Renewable Energy Certificates
LRET	Large-scale Renewable Energy Target
MMA	McLennan Magasanik Associates
MRET	Mandatory Renewable Energy Target
MWh	Megawatt-hour
ORER	Office of the Renewable Energy Regulator
PV	Photovoltaic
RECs	Renewable Energy Certificates
RET	Renewable Energy Target
SGU	Small Generation Unit
SRES	Small-scale Renewable Energy Scheme
STCs	Small-scale Technology Certificates
STP	Small-scale Technology Percentage
the Act	<i>Renewable Energy (Electricity) Act 2000</i>
the bill	Renewable Energy (Electricity) Amendment Bill 2010
the committee	Senate Environment, Communications and the Arts Legislation Committee
the department	Department of Climate Change and Energy Efficiency

Chapter 1

Introduction and conduct of the inquiry

Conduct of the inquiry

- 1.1 On 13 May 2010 the Senate referred the provisions of three related bills, the:
- Renewable Energy (Electricity) Amendment Bill 2010;
 - Renewable Energy (Electricity) (Charge) Amendment Bill 2010; and
 - Renewable Energy (Electricity) (Small-scale Technology Shortfall Charge) Amendment Bill 2010

to the Environment, Communications and the Arts Legislation Committee for inquiry and report by 10 June 2010.

1.2 The committee advertised the inquiry in the national press and invited submissions by 24 May 2010. Details of the inquiry were published on the committee's website. The committee also wrote to a number of interested parties to inform them of the inquiry. The inquiry attracted 50 submissions. The names of persons and organisations that made submissions to the inquiry may be found in Appendix 1 to this report.

1.3 A public hearing was held in Canberra on 28 May 2010. The names of witnesses that appeared at the hearing may be found in Appendix 2. The Hansard transcript is available through the internet at www.aph.gov.au/hansard.

Acknowledgment

1.4 The committee thanks the organisations and individuals who made submissions and gave evidence at the public hearing.

The Renewable Energy Target scheme¹

1.5 The existing Renewable Energy Target (RET) scheme, which was established by the *Renewable Energy (Electricity) Act 2000*, as amended by the *Renewable Energy (Charge) Act 2009*, creates a guaranteed market for electricity generated from renewable sources. The target is for 20 per cent of Australia's electricity to be generated from renewable sources by 2020. The existing RET will be achieved through a series of increasing annual targets, culminating in 2020 with a target of 45 000 gigawatt-hours (GWh) of eligible renewable generation.

1 Much of this section is drawn from the Explanatory Memorandum.

1.6 The Act requires wholesale purchasers of electricity ('liable entities') to meet a share of a renewable energy target in proportion to their share of the national wholesale electricity market. The Act provides for the creation of Renewable Energy Certificates (RECs) by generators of renewable energy. One REC generally represents one megawatt-hour (MWh) of electricity from an eligible renewable energy source.

1.7 Generators of renewable energy include large-scale installations such as wind farms, geothermal or biomass power plants and small-scale installations such as solar water heaters, rooftop solar panels, small wind turbines and micro-hydro systems.

1.8 Once registered with the Office of the Renewable Energy Regulator (ORER), the RECs are able to be traded, and are sold to wholesale purchasers of electricity (the 'liable entities') who surrender them to ORER to demonstrate their compliance with their individual targets under the scheme. Liable entities thus avoid paying a shortfall charge which is set by a related Act, the *Renewable Energy (Electricity) (Charge) Act 2000*.

Purpose of the bills

1.9 The Renewable Energy (Electricity) Amendment Bill 2010 is intended to amend the *Renewable Energy (Electricity) Act 2000* to separate the existing RET scheme into two parts – a Small-scale Renewable Energy Scheme (SRES) and a Large-scale Renewable Energy Target (LRET).² The amendments are intended to encourage additional generation of renewable electricity from large-scale installations while continuing to support generation from small-scale installations. The principal amendments and the significant issues surrounding those proposed amendments are discussed later in this report.

1.10 The policy rationale to split the REC market is a concern 'that the inclusion of small-scale technologies and their impact on the REC market is delaying investment in large-scale renewable energy projects.'³

1.11 Shortly after passage of the RET legislation through Parliament in August 2009, the REC price fell, leading to uncertainty in the market and a deterrence of potential investment in large-scale renewable energy projects. A COAG review of late 2009 identified several factors affecting the REC price, including:

- the increase in the supply of RECs created by the higher uptake of solar water heaters and heat pumps, driven by Commonwealth and state subsidies, and the expectation that this trend may continue;
- domination of the spot market by small industry players, such as solar water heater providers, who regularly sell RECs for liquidity reasons; and

2 The Hon Mr Gary Gray, MP, Parliamentary Secretary for Western and Northern Australia, *House of Representatives Hansard*, 12 May 2010, p. 3210.

3 *Renewable Energy (Electricity) Amendment Bill 2010*, Explanatory Memorandum, p. 6.

-
- the perception that there is a large quantity of banked RECs, and that most liable entities will not need to purchase additional RECs to satisfy their obligations for the 2009 calendar year.⁴

1.12 The proposed changes are said to 'provide greater certainty for households, large-scale renewable energy projects and installers of small-scale renewable energy systems such as solar panels and solar water heaters.'⁵

1.13 In addition to the Renewable Energy (Electricity) Amendment Bill 2010, which contains the mechanisms to establish the LRET and the SRES, there are two associated bills. The Renewable Energy (Electricity) (Charge) Amendment Bill 2010 would impose a shortfall charge of \$65 per MWh (the *large-scale renewable energy shortfall charge*) on liable entities to encourage compliance with their legal obligations to surrender RECs created within the LRET.

1.14 The Renewable Energy (Electricity) (Small-scale Technology Shortfall Charge) Amendment Bill 2010 would impose a similar shortfall charge of \$65 per MWh (the *small-scale renewable energy shortfall charge*) on liable entities to encourage them to comply with the requirement to surrender RECs created within the SRES.

Overview of proposed changes

Large-scale Renewable Energy Target

1.15 It is expected that the LRET will provide most of the expansion in the generation of renewable electricity. The LRET has been set at 41 000 GWh in 2020 (see Figure 1 in chapter 2). The apparent reduction of the target, from the current 45 000 GWh, is a recognition that the separate SRES will account for at least 4000 GWh of generation.

1.16 The large-scale market will operate in much the same way as the existing RET scheme, with large-scale generators receiving Large-scale Generation Certificates (LREC) at a rate of one per MWh generated. Large-scale generators include wind farms, solar arrays, hydroelectricity and other renewable energy generation over a certain size.

1.17 The obligation of liable entities to purchase LRECs creates demand. As the LRET target increases annually, demand for LRECs will also increase over time. The price of LRECs is flexible and determined by market forces. It is expected that higher demand will result in higher LREC prices, which will encourage investment and expansion of large-scale renewable generation.

4 *Renewable Energy (Electricity) Amendment Bill 2010*, Explanatory Memorandum, p. 6.

5 *Renewable Energy (Electricity) Amendment Bill 2010*, Explanatory Memorandum, p. 2.

1.18 All existing Renewable Energy Certificates, including existing forward contracts and Small-scale Technology Certificates (STCs) created before 1 January 2011 will be included in the LRET market.

1.19 The LRET, including issues associated with its operation, is described in further detail in chapter 2.

Small-scale Renewable Energy Scheme

1.20 The SRES will operate quite differently. Under the SRES, owners of small-scale technologies, including solar water heaters, household photovoltaic (PV) systems and small-scale wind and hydropower systems are eligible to create Small-scale Technology Certificates (STCs) at a rate of one per MWh of electricity generation equivalent. The existing Solar Credits scheme, described in further detail in Chapter 3, continues to operate, meaning that small-scale wind, solar and hydro systems will attract multiple STCs per MWh until 2015.

1.21 The bill establishes a Clearinghouse that will provide a means to trade STCs at the fixed price of \$40 (exclusive of GST).⁶ STCs can also be sold outside the Clearinghouse using private markets.

1.22 The SRES does not include annual targets, and so it will be a demand-driven, uncapped scheme. As the STC price is fixed, the quantity of STCs produced each year will be determined by the market. Liable entities are obliged to purchase all STCs created annually. However, in order to provide some certainty of the SRES liability in the short term, ORER will forecast STC creation and calculate a firm's liability using the projection. This will provide up to a year's forward notice of the SRES liability, with non-binding estimations published a further two years in advance as a guide for liable entities.

1.23 The SRES, and issues associated with its operation, is described in further detail in chapter 3.

Assistance for emissions-intensive trade-exposed industries

1.24 The existing levels of assistance to Emissions-Intensive Trade-Exposed (EITEs) industries will continue unchanged under the proposed legislation. Partial exemptions of 90 per cent for high emissions intensive industries and 60 per cent for medium emissions intensive industries will apply to the portion of the LRET over 9500 GWh and to the liability under the SRES. The 90 or 60 per cent exemption does not apply to the pre-existing MRET (9500 GWh) unless the price of an LREC appreciates above \$40. EITE industries will receive further assistance beyond this price point, however this is contingent upon the passage of the Carbon Pollution Reduction Scheme. Issues associated with assistance measures for EITEs are described further in chapter 4.

6 *Renewable Energy (Electricity) Amendment Bill 2010*, Explanatory Memorandum, p. 21.

COAG Review

1.25 The committee notes that the Council of Australian Governments (COAG) is currently undertaking a review of specific renewable energy target issues. The review work, conducted by the COAG Renewable Energy Sub Group has included the release of five discussion papers to facilitate consultation. The five papers cover areas of interest including:

- eligibility of new small-scale technologies and heat pumps;
- self-generation provisions under the expanded national RET scheme;
- support for small-scale off-grid renewable generation;
- treatment of new waste coal mine gas power generation in the RET; and
- treatment of ‘Solar Credits’ Renewable Energy Certificates under the RET.⁷

1.26 At the 19–20 April 2010 meeting, COAG noted the Commonwealth government’s announcement of plans to split the RET into separate large-scale and small-scale components.

COAG noted the Commonwealth announcement of 26 February 2010 to make significant changes to the Renewable Energy Target (RET) scheme, involving two separate parts – the Small-scale Renewable Energy Scheme and the Large-scale Renewable Energy Target. These changes are intended to address concerns being considered by the COAG Review of Specific RET Issues regarding Renewable Energy Certificate (REC) prices and additional RECs not backed by generation as part of the Solar Credits mechanism. The remaining matters within the scope of the review will be finalised for consideration by COAG at its next meeting.⁸

Impact of scheme on electricity prices

1.27 The majority of the liability arising from the LRET and SRES will accrue to purchasers of retail electricity, in the form of higher prices for electricity. However, modelling of the effects of the scheme provided to the committee suggests that the cost impost resulting from the passage of the proposed legislation will be relatively low (see Table 1). For instance:

7 Department of Climate Change and Energy Efficiency, *Consultation on Additional Renewable Energy Target Issues*, www.climatechange.gov.au/en/government/submissions/renewable-energy-target/coag-ret-target.aspx (accessed 7 June 2010).

8 Council of Australian Governments, *Communique 19–20 April 2010*, www.coag.gov.au/coag_meeting_outcomes/2010-04-19/index.cfm?CFID=97318&CFTOKEN=96033893#energy (accessed 7 June 2010).

Table 1—Estimated Impact of the Enhanced RET on Retail Electricity Prices⁹

	2010–15		2016–20		2021–30	
	Percentage	\$/MWh	Percentage	\$/MWh	Percentage	\$/MWh
With a 2013 CPRS start date						
Current RET	4.0	4.69	5.1	7.41	3.3	5.40
Enhanced RET	0.2	0.23	0.2	0.31	0.4	0.64
Total	4.2	4.92	5.3	7.72	3.7	6.04
With a 2014 CPRS start date						
Current RET	4.2	4.73	5.2	7.47	3.3	5.42
Enhanced RET	0.2	0.26	0.2	0.31	0.4	0.64
Total	4.4	4.99	5.4	7.78	3.7	6.06

Source: McLennan Magasanik Associates, *Impacts of Changes to the Design of the Expanded Renewable Energy Target*, May 2010.

1.28 The government's commissioned modelling indicates that the proposed changes to the RET scheme would increase retail electricity prices by 23 cents per MWh (or 0.2 per cent) in the period 2010–15, assuming the CPRS is implemented in 2013. This is on top of the price effect of the current RET. Altogether, the amended RET scheme, including the division into the LRET and SRES, is estimated to raise electricity prices by \$4.92 per MWh in the period 2010–15, increasing to \$6.04 in the period 2021–30.

1.29 Figures provided by the department estimated that this price increase would add approximately \$41 to the average household's annual electricity bill in the period 2010–15. Of this amount, only \$2 of the increase would be attributable to changes made by the proposed legislation.¹⁰

1.30 There were differing views about the effect of the Renewable Energy Target on electricity prices. For example, the Australian Aluminium Council disagreed with the department's modelling that indicated declining contract prices for LRECs over the course of the scheme's lifetime:

Looking particularly at the recent changes announced to RET and their impact on electricity costs, we believe the changes unambiguously increase the cost of the RET policy. The target has been adjusted so that it can only be higher than the previous target; it cannot be lower. The costs per renewable energy certificate will be higher as a result of splitting it into two streams. We are particularly concerned about the difficulty in meeting the large-scale renewable energy target. If that becomes difficult to meet, we

9 Department of Climate Change and Energy Efficiency, tabled document, 28 May 2010; figures based on the McLennan Magasanik Associates' Report to the Department of Climate Change and Energy Efficiency – *Impacts of Changes to the Design of the Expanded Renewable Energy Target*, May 2010.

10 Department of Climate Change and Energy Efficiency, tabled document, 28 May 2010; figures based on the McLennan Magasanik Associates' Report to the Department of Climate Change and Energy Efficiency – *Impacts of Changes to the Design of the Expanded Renewable Energy Target*, May 2010.

would expect, as others have indicated, that the LRECS, the certificate price, will rise to the level of the penalty charge, which is in the order of \$90 per certificate.¹¹

1.31 The Energy Supply Association of Australia (ESAA) was also of the opinion that the LREC price would approach the shortfall charge tax-free equivalent of approximately \$90.¹² Mr Brad Page, ESAA, noted that the following decades would require major investment in the electricity sector for many reasons, of which the LRET was just one:

There will undoubtedly be clear elements where you have to build a new line to hook up to a new wind farm. Okay, you can see that. But for much of the rest of the investment it is not easily attributed to any one item or any one change. We are going to need improved digital operation of the networks not just for renewable energy but also to meet a variety of new needs on the demand side, to actually engage consumers better, to give them functionality and to actually let us control the system with less installed capacity. All I am trying to say to you is that it is extremely complicated to unpick exactly what causes every element.¹³

1.32 Mr Page referenced electricity price modelling by Port Jackson Partners projecting electricity price increases in excess of 100 per cent resulting from a range of factors, including the existing RET.¹⁴

1.33 The Clean Energy Council provided the committee with modelling it had commissioned from ROAM Consulting. Mr Matthew Warren informed the committee that the modelling indicated the net cost of the entire scheme, including the SRES, to be much smaller than the expected increases that would occur anyway:

We have completed some modelling in March and recently in May, which we will table... This is in relation to the small-scale technology, so the uncapped SRES. The costs to households, where the costs are highest initially, are from 0.6 per cent to two per cent of retail electricity prices. Even with very aggressive sales behind the SRES, it still only increases household electricity bills by about two per cent, according to our modelling...

We calculate the net cost by 2020 of the entire scheme as being about six per cent of household power bills, so that will scale up as the scheme scales

11 Mr Miles Prosser, Australian Aluminium Council, *Proof Committee Hansard*, 28 May 2010, p. 27.

12 Mr Brad Page, Energy Supply Association of Australia, *Proof Committee Hansard*, 28 May 2010, p. 12.

13 Mr Brad Page, Energy Supply Association of Australia, *Proof Committee Hansard*, 28 May 2010, p. 11.

14 Mr Brad Page, Energy Supply Association of Australia, *Proof Committee Hansard*, 28 May 2010, p. 13.

up. That is much smaller than the power bill increases of up to 40 per cent already being proposed as a result of network and transmission upgrades.¹⁵

1.34 AGL Energy noted that their own modelling aligned closely with the results of both the MMA report and the modelling commissioned by the Clean Energy Council.¹⁶

Committee view

1.35 On the balance of evidence provided, the committee considers that the proposed legislation is unlikely to significantly alter the price impact of the Renewable Energy Target. Furthermore, the impacts of the existing scheme already agreed to by the Parliament are in the committee's view minimal and represent an acceptable trade-off in delivering the government's commitment for 20 per cent of Australia's electricity to be generated from renewable sources.

Passage during the winter sittings

1.36 The committee endorses the evidence supporting the need for a swift passage of the bill before the winter recess. As Mr Matthew Warren, Clean Energy Council noted:

In a sense, we are right at the edge of the road. Without this passage, it is then deferred until after the political election cycle, and there will be another year before it passes. The collateral damage on the industry alone will be significant. Staff will be lost, expertise will be lost and investment confidence will be lost. We have the support of all the major retailers, who are the liable parties in Australia—so Origin, TRU and AGL. They see that we need some sort of investment in new generation capacity in Australia. So it has a material negative impact both on the energy market and the electricity market in Australia and on this industry. It sends a growth industry in reverse if this does not pass.¹⁷

1.37 The committee is aware that large amounts of investment are waiting on the certainty the legislation can provide and notes that there is broad support from a range of stakeholders.

1.38 The committee makes a recommendation in chapter 4 regarding the timing of the passage of the bills.

15 Mr Matthew Warren, Clean Energy Council, *Proof Committee Hansard*, 28 May 2010, p. 24.

16 Mr Tim Nelson, AGL Energy, *Committee Hansard*, 28 May 2010, p. 22.

17 Mr Matthew Warren, Clean Energy Council, *Committee Hansard*, 28 May 2010, p. 25.

Report structure

1.39 Over the course of the inquiry, a number of issues were raised in evidence and are discussed in detail in this report. Chapter 2 focuses on the LRET, chapter 3 on the SRES and chapter 4 on assistance measures for EITEs.

Chapter 2

Large-scale Renewable Energy Target

2.1 As discussed earlier in this report the bills are intended to create a separate market for renewable energy generated by large-scale technologies¹ and another market for energy generated by small-scale technologies from 1 January 2011 – the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). The committee considers the large-scale market (LRET) in this chapter.

Operation of the LRET

2.2 The government's intention is that the LRET will operate similarly to the existing RET scheme established by the *Renewable Energy (Electricity) Act 2000* (the Act).

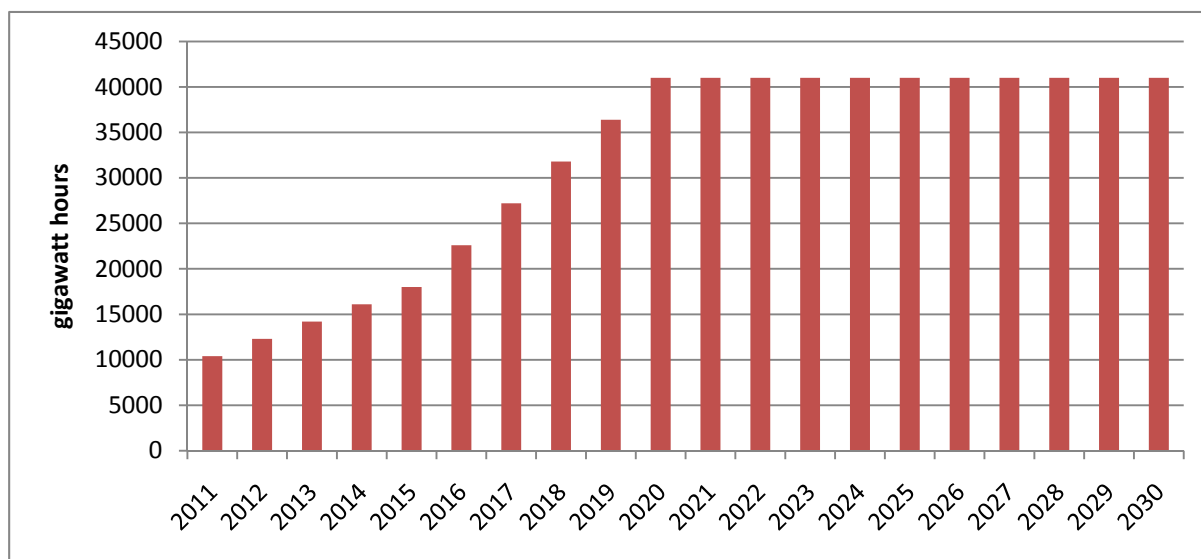
2.3 Under the LRET, liable entities will be required to surrender certificates created by large-scale accredited generators (LRECs) to meet a share of the LRET. Annual surrender requirements will be calculated by the Regulator based on the liable entities' share of the wholesale electricity market and the total LRET for that year. If liable entities do not surrender the necessary number of LRECs they are required to pay a penalty or 'shortfall charge' of \$65 per MWh.

2.4 The annual LRET targets that are set by the bill start at 10 400 GWh in 2011, increasing to 41 000 in 2020 and remaining at that level until 2030 (see Figure 1). The annual targets and the final target proposed by the bill are lower than the targets currently required by the Act.² This is to take into account the certificates that will be created under the small-scale renewable energy scheme (STCs). These STCs must also be taken up by the liable entities. As discussed in Chapter 3, the government expects that the numbers of STCs created will be sufficient to increase the total targets to at least the levels required by the existing Act, which in 2020 is 45 000 GWh.³

1 Large-scale generators include wind farms, solar arrays, hydroelectricity, geothermal facilities and other accredited renewable generators.

2 See new section 40 at Item 123.

3 See, for example, Mr Geoff Leeper, Deputy Secretary, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 47.

Figure 1—Large-scale Renewable Energy Target

Source: McLennan Magasanik Associates, *Impacts of Changes to the Design of the Expanded Renewable Energy Target*, May 2010, p. 20.

Certainty

2.5 The LRET is expected to provide certainty for large-scale generators of renewable energy, as explained by Mr Leeper, Deputy Secretary of the Department of Climate Change and Energy Efficiency (DCCEE):

At present there is a perception, certainly in the marketplace, that uncapped growth in the small-scale certificates is crowding out large-scale investment by artificially lowering the price. By separating the two schemes we are looking to provide investment certainty in the large-scale sector.⁴

2.6 Some witnesses considered that the establishment of a separate LRET market was necessary due to the large numbers of low value RECs being created by small-scale technologies under the existing RET scheme. This has meant that liable entities were meeting their obligations largely from these RECs which were produced at a lower price than would be required to deploy large-scale generators. Proponents of the bills submitted that this has discouraged investment in the large-scale generation of power.⁵

4 Mr Geoff Leeper, *Proof Committee Hansard*, 28 May 2010, p. 49.

5 See, for example, Mr Lane Crockett, General Manager Australia, Pacific Hydro, *Proof Committee Hansard*, 28 May 2010, p. 1.

2.7 Large generators of electricity from renewable sources support the establishment of a LRET on the grounds that it will provide certainty and encourage investment in the industry.⁶ Infigen Energy, for example, submitted that:

We have every confidence that the deployment of large utility scale, renewable energy projects and small residential scale applications will thrive once these changes are legislated.⁷

2.8 The Energy Supply Association of Australia (ESAA), which represents more than 40 major energy utilities including generators and retailers, informed the committee that it supports the provisions in the bill that establish the LRET. ESAA submitted that the establishment of the LRET appears to address the concerns of investors in large-scale renewable energy generators concerning the collapse of the spot price for RECs in the second half of 2009.⁸

2.9 Witnesses submitted evidence to indicate the amount of investment and the additional employment that might flow from functional LRET. Pacific Hydro, for example, claimed that if the bills are passed, approximately \$25 billion in new investment and 26 000 jobs would not go off-shore.⁹

2.10 McLennan Magasanik Associates' (MMA) modelling suggests that investment to 2020 under the existing RET scheme will be in the order of \$14–16 billion, which will be increased by \$2.1 billion under the LRET. Implementation of the LRET is also expected to bring forward investment, with significant investments being made in the period to 2016.¹⁰

2.11 Much of the expected investment and employment will take place in regional areas. Examples were provided by AGL which informed the committee that the Hallet wind farms in South Australia have so far provided 233 construction jobs with a further 15 operations positions.¹¹ Pacific Hydro's Portland wind farm created 400 jobs, a large proportion of which were from local contractors. The company sourced its towers from a Portland based engineering firm that employs approximately 150 people solely dedicated to the manufacture of wind turbine towers.¹²

6 See, for example, Mr Jonathan Upson, Senior Development Manager, Infigen Energy, *Proof Committee Hansard*, 28 May 2010, p. 3.

7 Infigen Energy Limited, *Submission 12*, p. [1].

8 Energy Supply Association of Australia, *Submission 41*, p. 1.

9 Mr Lane Crockett, General Manager Australia, Pacific Hydro, *Proof Committee Hansard*, 28 May 2010, p. 1.

10 *Impacts of Changes to the Design of the Expanded Renewable Energy Target, Report to the Department of Climate Change and Energy Efficiency*, McLennan Magasanik Associates, May 2010, p. 28.

11 AGL energy Limited, *Supplementary Submission*, 1 June 2010, p. 1.

12 Mr Lane Crockett, General Manager Australia, Pacific Hydro, *Proof Committee Hansard*, 28 May 2010, p. 1.

2.12 Although there was general support for the establishment of the LRET, some witnesses were concerned about the provision to allow the use of banked RECs and RECs attaching to pre-existing contracts within the LRET. The possible cost of LRECs was also an issue that was raised in evidence.

*Banked Renewable Energy Certificates*¹³

2.13 The bill provides that RECs that have been created under the RET scheme and that have not been surrendered before 1 January 2011 will be able to be acquired by liable entities to meet their LRET obligations in future years.

2.14 Pacific Hydro informed the committee that:

The ability to bank deemed RECs for retirement in the LRET is expected to create an oversupply of approximately 23 million RECs by the end of 2010. With this unprecedented surplus, no new investment in large scale renewable capacity will be required to meet liability before 2014.¹⁴

2.15 To diminish the surplus banked RECs sooner, the witness requested that the LRET target be increased in the first two years of the scheme, from 10 400 to 14 200 GWh in 2011 and from 12 300 to 14 200 GWh in 2012. Pacific Hydro considered that the revised targets would reduce the impact of the oversupply of RECs in those years and 'promote immediate investment in large-scale projects'.¹⁵

2.16 Pacific Hydro was also concerned about the risk of an oversupply of RECs resulting from *pre-existing contracts*. (These RECs will be able to be used by liable entities in the new LRET market to demonstrate compliance with their obligations.) The company submitted that increased targets for the first two years of operation of the LRET would reduce that risk. The company also suggested criteria for pre-existing contracts that would limit the numbers of RECs in the LRET market.¹⁶

2.17 AGL Energy Limited, which is the major investor in large-scale renewables in Australia, informed the committee that it supported the use of banked RECs in the LRET, including those that will be created during the remaining months of 2010. The company stated that 'these arrangements will preserve existing investment decisions made under the RET scheme'.¹⁷ Origin Energy Limited cautioned against limiting the number of banked RECs that might be created by the end of 2010 and then used in the LRET from 2011.¹⁸

13 RECs that have been created but not yet surrendered are referred to as being 'banked'.

14 Pacific Hydro Pty Ltd, *Submission 2*, p. [1].

15 Pacific Hydro Pty Ltd, *Submission 2*, p. [2].

16 These criteria may be found in *Submission 2*, pp [2]–[3].

17 AGL Energy Limited, *Submission 7*, p. 2.

18 Origin Energy Limited, *Submission 30*, p. 2.

2.18 Modelling commissioned by DCCEE of the impacts of the expanded renewable energy target indicates that following the 14 February 2011 surrender period there would be approximately 16.2 million 'excess' RECs in the market.¹⁹ The department stated that although the actual numbers of excess RECs had been increasing each year, as a proportion of the following year's target the excess RECs have been declining, 'which means that the liquidity in the market is declining'.²⁰

2.19 Mr Leeper from the department stated that:

Some liquidity is good to help the market function. But liquidity is coming down over time as a proportion of the following year's target in trend terms—I will not say in absolute terms—and our modelling suggests that within three or four years the large-scale sector will either have to have brought through a significant amount of investment that is not currently on the drawing board or they will be facing shortfall charges.²¹

2.20 Excess RECs include RECs that have not yet been registered with the Regulator.

Committee view

2.21 The committee appreciates the concerns of some generators about the possible adverse effects that a large number of banked RECs and RECs attaching to pre-existing contracts might have on investment decisions. However, it has also aware of the department's assertion that without a stock of banked RECs there is a risk that liable entities might choose to pay the shortfall charge rather than support the deployment of new renewable energy capacity.

2.22 The committee has concluded that the balance of the evidence suggests that the bills as drafted will support significant investment and employment in the renewable energy industry.

Prices of LRECs

2.23 The committee heard conflicting evidence about the likely future prices for LRECs.

2.24 The MMA modelling suggests that the contract price of the LRECs will fall over time from around \$67 in 2011 to \$22 by 2030.²² The model necessarily makes

19 *Impacts of Changes to the Design of the Expanded Renewable Energy Target, Report to the Department of Climate Change and Energy Efficiency*, McLennan Magasanik Associates, May 2010.

20 Mr Geoff Leeper, *Proof Committee Hansard*, 28 May 2010, p. 51.

21 Mr Geoff Leeper, *Proof Committee Hansard*, 28 May 2010, p. 51.

22 Department of Climate Change and Energy Efficiency, *Answers to Questions on Notice*, May 2010, p. 13.

certain assumptions about costs and availability of renewable energy in future years and assumes that a CPRS will be implemented in 2013 or 2014. The department observed that the CPRS would reduce REC prices over time as the carbon price increases the price of electricity.²³

2.25 Some witnesses suggested that the price of LRECs would increase, perhaps to the after-tax level of the shortfall charge (\$92 per MWh). The Australian Aluminium Council stated that:

The costs per renewable energy certificate will be higher as a result of splitting [the RET] into two streams. We are particularly concerned about the difficulty in meeting the large-scale renewable energy target. If that becomes difficult to meet, we would expect, as others have indicated, that [the LRET certificate price], will rise to the level of the penalty charge, which is in the order of \$90 per certificate.²⁴

2.26 The ESAA suggested that by 2020 the technologies would demand that the LREC price would approach the shortfall charge,²⁵ while another witness submitted that in the longer-term, RECs will be in short supply and their price will remain around the after-tax price of \$90.²⁶

2.27 In the context of LRET market liquidity, Mr Leeper stated that modelling suggests that by 2014, without significant as yet untaken investment decisions, there will be a shortfall of RECs in the large-scale market resulting in liable parties paying the shortfall charges.²⁷ Mr Prosser, Executive Director, Australian Aluminium Council, observed that the MMA modelling assumes that a large quantity of renewable energy from geothermal sources would be available and stated that:

If that was not able to deliver according to the time line in the modelling [coming online in around 2014], then that is a large portion of the target that will get harder to meet, and will push the price up towards the shortfall charge.²⁸

23 Department of Climate Change and Energy Efficiency, *Answers to Questions on Notice*, May 2010, p. 13.

24 Mr Miles Prosser, Executive Director, Australian Aluminium Council, *Proof Committee Hansard*, 28 May 2010, p. 27.

25 Mr Brad Page, Chief Executive Officer, Energy Supply Association of Australia, *Proof Committee Hansard*, 28 May 2010, p. 12.

26 Ms Fiona OHehir, Chief Executive Officer, Greenbank Environmental Pty Ltd, *Submission 15*, p. [2].

27 Mr Geoff Leeper, *Proof Committee Hansard*, 28 May 2010, p. 51.

28 Mr Miles Prosser, Executive Director, Australian Aluminium Council, *Proof Committee Hansard*, 28 May 2010, p. 31.

Committee view

2.28 It is obviously not possible to reach firm conclusions about the level of future LREC prices because of the many variables that are involved. The committee notes, however, that the MMA modelling suggests that the LREC price should be significantly less than the shortfall charge of \$92.

Chapter 3

Small-Scale Renewable Energy Scheme

Introduction

3.1 As described in Chapter 1, the proposed legislation will separate the Renewable Energy Target (RET) market into the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). By comparison with the LRET, the establishment of the SRES is a more fundamental change to existing arrangements.

Operation of the SRES

Definition of 'small-scale'

3.2 The small-scale technology category includes renewable electricity generation units under a certain size and solar water heaters or air-sourced heat pump water heaters. Under current regulations, small generation units include:

- Hydroelectric systems with a capacity of 6.4 kW or less and a total annual electricity output of 25 MWh or less;
- Wind systems with a capacity of 10 kW or less and a total annual electricity output of 25 MWh or less; and
- Solar (photovoltaic) systems with a capacity of 100 kW or less and a total annual electricity output of 250 MWh or less.¹

3.3 Solar water heaters must meet certain standards and have a capacity of 700 L or less. However, in certain circumstances larger systems are permitted.²

Small-scale Technology Certificates

3.4 The proposed legislation establishes a new class of Renewable Energy Certificate called 'Small-scale Technology Certificates' (STCs).³ Owners or installers of the above-mentioned systems will receive a certain number STCs based on the estimated output of the technology. This estimation uses information such as the model installed, the expected lifespan of the unit and the location of the installation.

1 Renewable Energy (Electricity) Regulations 2001, para. 3(2).

2 Solar Water Heater (SWH) Owners Guide, Fact Sheet, Office of the Renewable Energy Regulator, April 2010, www.orer.gov.au/publications/pubs/swh-owners-guide-0410.pdf (accessed 1 June 2010).

3 See new section 17B and new Part 2A.

3.5 Deeming arrangements that currently apply under the existing RET will continue under the SRES. This means that owners or installers of small-scale technology systems receive STCs for the unit's expected lifetime generation upfront in order to subsidise the cost of installation. For solar water heating systems, STCs can only be created once, using a deeming period of ten years. Owners or installers of small generation units can opt for STCs to be created in batches one, five or 15 year deeming periods.⁴

3.6 In principle, one STC is equivalent to one MWh of renewable energy generation. However, the Solar Credits scheme that is currently in operation will continue under the SRES. This means that owners or installers of small generation units will earn multiple STCs per MWh of generated electricity, with the multiplier reducing over time.

Clearing house

3.7 The proposed legislation establishes a clearing house, to be administered by ORER, which will provide a mechanism for the transfer of STCs. Sellers of STCs can apply to sell them through the clearing house at a fixed price of \$40 per STC (GST exclusive).⁵

3.8 When an owner applies to the clearing house to sell an STC, it is added to a list that operates as a queue. The clearing house will then offer the STCs for sale in the order in which they were received. When a buyer requires an STC, the STC at the top of the list (ie the earliest STC registered with the clearing house) is sold and the \$40 remitted to the seller.

3.9 If there are no STCs available for sale, the clearing house will be able to create and sell additional STCs (still at the fixed price). The next time an STC is registered for sale, the seller is paid the \$40 and the registered STC is cancelled, in lieu of the STC previously created. Conceptually, this simply represents bringing forward future STCs for sale in the present.

3.10 STCs may also be traded outside the clearing house, but the existence of the clearing house will constrain the price to \$40 or less.

Liability under the SRES

3.11 There is no set target for renewable energy generation under the SRES. Instead collectively, liable entities are obliged to purchase and surrender all STCs created under the scheme, regardless of how many are created.

4 *SGU Owners Guide*, Fact Sheet, Office of the Renewable Energy Regulator, April 2010, www.orer.gov.au/publications/pubs/sguowners-guide-0410.pdf (accessed 1 June 2010)

5 New Part 2A, Item 58; The GST amount would be \$4; The \$40 fixed price is set in nominal terms and is not indexed for inflation.

3.12 Calculating a firm's liability under the SRES is more complicated than under the existing RET, as the liability is calculated based on an estimation of how many STCs will be created in the year ahead.

3.13 The liability is calculated using the Small-scale Technology Percentage (STP) which will be published in regulations on or before 31 March of the relevant year. The STP for 2011 for example, would be:

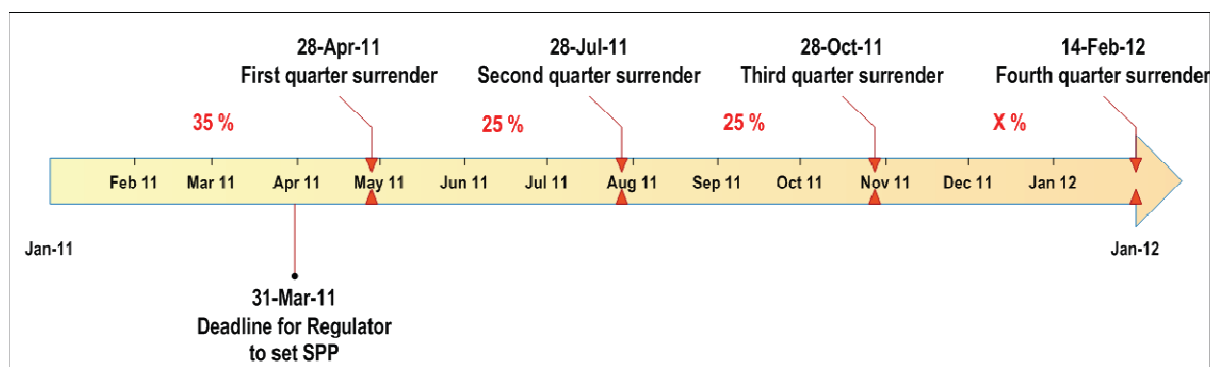
$$\frac{\text{Projection of the number of STCs to be created in 2011 (GWh)}}{\text{Total projected relevant acquisitions in 2011 (GWh)}}$$

3.14 The STP would be used to calculate an individual firm's liability based on its usage of electricity, with the liability payable in four instalments. The publication of the STP by March of the relevant year provides liable entities with some forward notice. Furthermore, OREER will publish estimates of the STP for the following two years. While non-binding, these will provide guidance to liable entities.

Quarterly Surrender of STCs

3.15 The SRES features quarterly rather than annual STC surrender periods. A discussion paper prepared by the Department of Climate Change and Energy Efficiency noted that quarterly surrender periods would provide more regular demand for STCs and hence 'clearing of the pool' on a more regular basis.⁶ The dates for surrender are shown in Figure 2.

Figure 2—Quarterly SRES surrender dates



Source: Amended version of Figure 5, *Enhancing the Renewable Energy Target*, Discussion Paper, Department of Climate Change and Energy Efficiency, March 2010.

3.16 Liable entities will need to surrender STCs in four instalments each year to account for their SRES liabilities. This method is similar to the Pay-As-You-Go company tax arrangements. In essence, the liability is calculated with reference to:

6 Department of Climate Change and Energy Efficiency, 'Enhancing the Renewable Energy Target' Discussion Paper, March 2010, p. 15.

- the STP (estimated using projections of STC creation and total electricity acquisition);
- historical electricity acquisition from the previous year; and
- an adjusted fourth quarter liability that takes into account electricity acquisition for the current year once it is known.

3.17 An individual firm's liability in the first three quarters of 2011 is calculated based on the firm's electricity acquisition in 2010 and the STP. For instance, if the firm acquired 100 000 MWh of electricity in 2010, and the 2011 STP is 10 per cent, then the 2011 liability is calculated as 10 000 MWh, or 10 000 STCs, payable in quarterly instalments. As the 2011 STP must be published by 31 March 2011, firms will have at least one month's notice of their first-quarter STC liability, payable on 28 April.

3.18 The quarterly instalments are weighted differently, with 35 per cent of the liability due in the first quarter, 25 per cent in the second quarter and 25 per cent in the third quarter. The fourth quarter features an adjustment taking into account actual electricity acquisitions for that calendar year.

3.19 Rather than using the historical 2010 electricity acquisition data to calculate the 2011 liability (as in the first three quarters), the fourth quarter surrender amount is adjusted to take into account actual 2011 electricity acquisition data. Essentially the fourth quarter becomes a 'true-up' mechanism that ensures the relevant year's liability is calculated using the same year's electricity acquisitions. However, the STP remains unchanged, with any discrepancy between the amount of STCs created in a year versus the number surrendered reflected in the following year's STP.

Issues

Uncapped liability under the SRES

3.20 The explanatory memorandum for the bill notes that the establishment of the SRES represents a:

...possibly open-ended commitment to small-scale generation with cost impacts for the liable entities. The proposed approach attempts to mitigate this risk by monitoring the uptake in the market and reviewing the fixed price in 2014.

3.21 The possible risk associated with establishing an uncapped SRES liability was an issue commonly raised by witnesses and submitters. With no set target under the SRES, liable entities collectively must purchase and surrender all STCs that are created through the scheme.

3.22 The LRET has been set at 41 000 GWh in recognition that the SRES is expected to result in at least 4000 GWh of renewable energy generation. The

government retains a commitment to delivering at least 45 000 GWh of additional renewable energy generation under the proposed legislation.⁷ The government has stated that if the SRES does not deliver the 4000 GWh minimum, the LRET will be revised upwards to compensate. However, the LRET will not be revised down if the SRES exceeds the nominal 4000 GWh target.⁸

3.23 The MMA report predicted an eventual SRES size of 6000 GWh, while other organisations predicted figures as high as 10 000 GWh.⁹

3.24 The Department of Climate Change and Energy Efficiency informed the committee that the MMA modelling suggested that the amount of renewable generation in 2020 would be 22 per cent of total electricity generation.¹⁰

3.25 Many submissions expressed concern that the uncapped nature of the SRES represents a significant risk to liable entities in the event that household uptake of small generation units and solar water heaters exceeded expectations.

3.26 For example, A3P noted that:

Capping the price but not the quantity of small-scale renewable electricity certificates introduces uncertainty into the electricity price for consumers. This problem is compounded in the case of electricity-intensive processes for which electricity makes up a significant proportion of their operating costs. The small-scale portion of the RET should be capped, or removed from the RET altogether.¹¹

3.27 Alcoa noted that the design of the SRES reflected a transfer of risk to the liable entity sector. Previously, the influx of RECs from small-scale installations had reduced REC prices and jeopardised investment in large scale renewable energy generators. Under the proposed scheme, the risk posed by the uptake of small-scale technologies would be transferred to liable entities in the form of the uncapped obligation to purchase all STCs that were created.¹²

3.28 The Australian Industry Greenhouse Network were of a similar opinion, stating:

The effect of the SRES proposal is to remove all price risk from SRES suppliers and to substantially reduce the price risk faced by LRET

7 Second Reading Speech, p.15.

8 Mr Geoff Leeper, Deputy Secretary, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 50.

9 Australian Industry Greenhouse Network, *Submission 43*, p. 2.

10 Mr Geoff Leeper, Deputy Secretary, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 47.

11 A3P, *Submission 42*, p. 2.

12 Alcoa, *Submission 18*, p. 5.

suppliers. However, these risks have not been removed from the renewables markets — rather, they have been transferred to liable parties and electricity consumers.¹³

3.29 The Energy Supply Association of Australia felt that the scheme could be simplified by the government instead providing a subsidy for small-scale technologies through a budgetary measure:

On the other hand, the resultant Small-scale Renewable Energy Scheme (SRES) has the same effect as an upfront capital subsidy for households, community groups and businesses to install small-scale renewable generators and solar water heaters, but with considerable complexity in the administration and delivery due to the Government's reluctance to take fiscal responsibility for its own policy initiatives.¹⁴

3.30 Mr Brad Page, CEO of the Energy Supply Association of Australia noted that the risk associated with the uncapped liability of the SRES would add to existing risks in the electricity market:

One of the issues that the industry I represent faces very substantially, right now, on every front is an enormous amount of risk. It is being put at risk because of delays, because of changes and because of open-ended schemes and, quite frankly, it is very hard to make efficient investment decisions when there is uncontrollable risk.¹⁵

3.31 Following consultation with stakeholders by the Department of Climate Change and Energy Efficiency, the proposed model seeks to provide certainty about the SRES liability at least one year in advance, with guidance provided on the liability in the subsequent two years. As noted in the first half of this chapter, a firm's annual liability will be calculated using the STP which will be based on projected STC creation and would be published at least by March of the year in question. This would give liable entities up to a year's forward notice of their SRES liability. In addition, ORER would publish estimates of the STP for the subsequent two years as a future guide for liable entities.

3.32 Origin Energy noted that the proposed SRES is overly complex, but felt that the inclusion of a projected annual target and the publication of an estimate of the STP in the following two years was useful. Origin Energy was concerned that the notification of the annual STP, permitted to be as late as 31 March, would mean that liable entities received only one month's notice of their first quarter liability. This was compounded by the fact that first quarter liability represented 35 per cent of the annual total.¹⁶

13 Australian Industry Greenhouse Network, *Submission 43*, p. 1.

14 Energy Supply Association of Australia, *Submission 41*, p. 1.

15 Mr Brad Page, Energy Supply Association of Australia, *Proof Committee Hansard*, 28 May 2010, p. 11.

16 Origin Energy, *Submission 30*, p. 3.

3.33 Mr Andrew Livingston, the Renewable Energy Regulator, noted that while the deadline for prescribing the STP each year would be 31 March, in practice ORER would endeavour to publish the STP as early as January.

For the very first year of the system there could be a tight timeframe, but after that with the way it is organised we will give a year in advance as well.¹⁷

3.34 Greenbank Environmental noted that, in most cases, liable entities would be able to pass any extra costs resulting from high uptake of small-scale technologies to the consumer. The majority of the liability would therefore be borne by consumers of electricity.¹⁸

3.35 The exception to this would be industries that traded goods at world prices and therefore competed with overseas firms not subject to an overall SRES liability. For this reason, Emissions Intensive Trade Exposed (EITEs) industries were particularly concerned about the SRES liability and the degree to which they were exempt from the scheme. This issue is discussed in chapter 4.

3.36 The Energy Retailers Association of Australia supported the proposed legislation, but suggested that the number of STCs created each year should be limited to the number forecast by ORER, effectively capping the scheme:

Further certainty could be given to retailers by placing a cap on the number of STCs produced in any given period, for example the length of time the [STP] is projected. This could be capped to the projected [STPs] and then this would ensure that there will not be the need to reconcile unpurchased [STCs] into future [STPs].¹⁹

3.37 TRUenergy, while generally supportive of the bill, felt that the SRES, including the provision for annual forecasting of the SRES liability was overly complex and inefficient. TRUenergy therefore recommended adopting a fixed target approach to the SRES.²⁰

3.38 Rio Tinto noted that the risk associated with the open-ended commitment to small-scale technologies could undermine certainty in the operation of the scheme, particularly given the planned 2014 review.²¹

3.39 The Australian PV Association was concerned that the uncapped nature of the SRES may lead to uncertainty about the scheme's long term viability:

17 Mr Andrew Livingston, Office of the Renewable Energy Regulator, *Proof Committee Hansard*, 28 May 2010, p. 55.

18 Greenbank Environmental, *Submission 15*, p. 1.

19 Energy Retailers Association of Australia, *Submission 26*, p. 1.

20 TRUenergy, *Submission 28*, p. 2.

21 Rio Tinto, *Submission 9*, p. 1.

The SRES market appears likely to very rapidly reach the nominal 4000 GWh by which the RET target has been reduced. Liable parties will strongly oppose any continued requirement to purchase RECs from small-scale generators at that stage. Hence the scene is set for another sudden policy change, and a boom-bust cycle for the industry.²²

3.40 The issue of an overheated SRES market industry is discussed below.

Impact of state and territory policies

3.41 Many submitters noted that state and territory government policies strongly influence demand for small-scale technologies and hence could significantly impact on the overall size of the liability under the SRES.

3.42 Rheem Australia noted that there was a high likelihood that ORER may underestimate uptake of small-scale technologies and hence set the annual STC liability too low. This was in part because alternate Commonwealth, state and territory policies introduced subsequent to the estimation of the STP may drive demand in unforeseen ways:

For example, changes to the Federal Government's Solar Water Rebate scheme have reduced demand for heat pumps by 70% in the last 9 months. Similarly, the NSW Government's introduction of a gross feed in tariff for PV installations has substantially increased the uptake of solar PV. Neither of these changes could have been foreseen and therefore could not have been included in the annual target setting.²³

3.43 Peter Sachs Industries shared this opinion, stating:

Since September 2009 there have been two Federal Government solar hot water rebate reductions, a NSW Government solar hot water rebate reduction, a QLD Government Solar Hot Water Program scrapped and a new QLD Solar Hot Water Rebate introduced. The NSW Government introduced a gross feed in tariff for PV installations dramatically increasing uptake of photovoltaic solar panels and the Federal Government Home Insulation Program has been halted. Each one of these program adjustments or policy changes has had, or will have, a profound effect on the solar hot water and solar photovoltaic markets.²⁴

3.44 The Cement Industry Federation (CIF) also noted that state and territory policies concerning renewable energy would operate in concert with the SRES to drive up demand. The CIF was of the opinion that, in the absence of a cap on the size

22 Australian PV Association, *Submission 20*, p. 2.

23 Rheem Australia, *Submission 31*, p. 2.

24 Peter Sachs Industries, *Submission 46*, p. 2.

of the SRES, there was a need for 'adequate policy levers available to the Australian Government to control a blow out in the uptake of the SRES.'²⁵

Solar Credits

3.45 The SRES will continue the Solar Credits multiplier arrangements that currently exist under the RET legislation. The Solar Credits scheme will continue to provide multiple certificates per MWh of electricity generation from small generation units. The Solar Credit multiplier operates as follows:

Table 2—Solar Credits Multiplier

Installation Period	Multiplier: STC per MWh
9 June 2009–30 June 2012	5
1 July 2012–30 June 2013	4
1 July 2013–30 June 2014	3
1 July 2014–30 June 2015	2

Source: Renewable Energy (Electricity) Regulations 2001, 27 March 2010.

3.46 The multiplier only operates with respect to certificates related to the first 1.5 kW of the rated power output of the unit.²⁶

3.47 Mr Adrian Ferraretto, Solar Shop Australia, noted that in practice this limited consumer demand to smaller systems, stating:

If you look back at data from the department of climate change to see what happened 10 years ago when the government had a 1.5 kilowatt rebate, the average system size installed was 1.5 kilowatts. When they changed it in 2003 to a one kilowatt rebate, the average system size installed was around one kilowatt. The reason for this behaviour is that it goes to the value proposition. When you buy to the cap of the rebate, I suppose you are getting the best value for money. If you are buying more panels after the rebate has been capped you are pretty much buying unsubsidised solar panels, which costs you a lot of money and offers poor value for money, relatively speaking, compared to getting fully subsidised solar panels.²⁷

3.48 In addition to receiving multiple certificates per MWh of generation, owners or installers of SGUs such as PV and solar hot water, are also able to receive the estimated life-time generation of RECs 'up front' in order to subsidise the cost of installation through a process called 'deeming'.²⁸

25 Cement Industry Federation, *Submission 14*, p. 3.

26 Renewable Energy (Electricity) Regulations 2001, para. (3)(c)

27 Mr Adrian Ferraretto, Solar Shop Australia, *Proof Committee Hansard*, 28 May 2010, p. 40.

28 Under the deeming arrangements, the expected lifetime generation of RECs is granted up-front. For instance, a rooftop PV system is expected to last 15 years, so 15 years worth of expected generation for each type PV model is provided up front.

3.49 The resulting subsidy for example, for a Sydney household that installs a 1.5 kW solar panel system in 2011 is an upfront discount of \$6,200 through STCs.²⁹

Overheating the SRES market

3.50 Representatives of six solar photovoltaic (PV) businesses noted that costs of solar PV had declined significantly over time and that the Solar Credits scheme had failed to keep pace with the price of installing a PV system.³⁰ For example Mr Adrian Ferraretto of Solar Shop Australia told the committee:

In the past 18 months, we have witnessed a dramatic drop of more than 50 per cent in the price of solar panels. This is because dedicated photovoltaic polysilicon plants have become extensively commercialised throughout the world following the silicon shortage that we experienced five years ago. Ninety-nine per cent of the world's solar panels are made from silicon. It is the single biggest cost of goods in the manufacture of solar panels. Even with these record low prices over the past 18 months, solar panel manufacturers are still making good margins—good profits—and they are also forecasting further cost reductions in the price of solar panels.³¹

3.51 The businesses' joint submission noted that this had led to the emergence of installers offering minimal or no cost PV systems under certain circumstances:

Combining these market changes [lower PV wholesale prices] with the current Solar Credits multiplier, in Zone 3 (Sydney, Perth, Brisbane, Adelaide) the actual cost to the consumer to install a 1.5kW solar power system is minimal. In fact, we are already seeing suppliers offering systems at no cost to the consumer in Zone 2, (Alice Springs, Broken Hill, Broome).

It is unsustainable for the industry to have solar power systems available at no cost to consumers. Solar power systems offered at no or low cost encourage low standards in materials, poor returns on financial and environment investments, and could cause long term damage to the entire industry.³²

3.52 Greenbank Environmental noted a similar concern:

As the economies of scale drive future price reductions in the deemed category, it could cause those underlying technologies to become cost

29 Department of Climate Change and Energy Efficiency, 'Enhancing the Renewable Energy Target' Discussion Paper, March 2010, p. 8.

30 Solar Shop Australia, Silex Solar, Sunpower Corporation Australia, Suntech Power Australia, Conergy Australia and SMA Australia, *Submission 24*, p. 1.

31 Mr Adrian Ferraretto, Solar Shop Australia, *Proof Committee Hansard*, 28 May 2010, pp 40–41.

32 SolarShop Australia et. al, *Submission 24*, p. 1.

neutral in a short space of time, especially if the deemed sector is to be uncapped.³³

3.53 The Department of Climate Change and Energy Efficiency informed the committee that it was not aware of offers of 'free' solar PV systems in the industry. Ms Shayleen Thompson informed the committee that:

...claims of solar panels being installed for free have been made from time to time over the last year or so. The department has repeatedly sought evidence that these claims are in fact correct, and to my knowledge we have not been provided with any evidence that demonstrates the veracity of those claims.³⁴

3.54 Ms Thompson noted that the department's own modelling indicated that the uptake of small-scale technologies would most likely decline over time:

We understand and talk to those in the industry that feel that other scenarios may unfold, but as I said, the modelling examines the forms of support that are around for these systems and draws the conclusion that those forms of support are winding back. As Mr Leeper has said, the outcome of that in the modelling report is that the number of certificates created by the small-scale units declines quite significantly from its height in the early years of the scheme.³⁵

3.55 During the course of the inquiry, the committee became aware of current advertisements for 'free' rooftop PV systems, but was unable to assess how widespread the offers were or how stringent were the conditions attached to the offer.³⁶ Nevertheless, given the available evidence, the committee considers that declining PV costs combined with existing state and territory rebates and current Solar Credits arrangements could feasibly result in free or extremely low-cost PV systems to households.

3.56 Several businesses that appeared at the public hearing were concerned that the availability of free systems and an associated spike in demand could result in significant risks to the industry. Mr Ferraretto noted that such a spike in demand had already occurred under the former Solar Homes and Communities Plan (SHCP) rebate:

33 Greenbank Environmental, *Submission 15*, p. 1.

34 Ms Shayleen Thompson, First Assistant Secretary, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 50.

35 Ms Shayleen Thompson, First Assistant Secretary, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 50.

36 Solar Shop Australia, response to question on notice, 28 May 2010 (received 1 June 2010) and Greenbank Environmental, Supplementary submission to *Submission 14*.

In the dying days of the old \$8,000 rebate, or the SHCP, we saw 60,000 systems given away for free in just a few weeks at a cost of \$480 million to the taxpayer.³⁷

3.57 Mr Ferraretto informed the committee that 60 000 of these systems could generate up to 11 million certificates, of which 80 per cent would be as a result of the 5-times Solar Credits multiplier.³⁸ The committee notes that this would be close to the total number of certificates required for surrender in 2010 under the existing RET scheme.

3.58 PV businesses that appeared before the committee were concerned that an overheated market may result in a decline in quality, harming the long-term reputation of the industry:

The only way to offer a free system is by using really cheap products and the really cheap installation and maybe frames that are made out of galvanised steel instead of aluminium, that will not last as long as what the solar panel guarantee is and things like that. To offer a free system you have to cut corners.³⁹

3.59 Mr David McCallum from Conenergy, was of the opinion that if PV installation was provided for free, the subsequent swift upswing in demand could lead to a greater use of unskilled or poorly trained labour:

...when the system is free, [with] installation capacity where they may be installing a couple of hundred systems a week in suburbs and towns, you have mass deployment of unskilled labour carrying out the vast majority of those installations, with the electrician connecting the system to the grid. So, the electrician turns up at the end of the day.⁴⁰

3.60 Industry participants noted that currently the sector was well regulated, including accreditation requirements for both equipment and installers:

There is a lot more rigour in the installation of solar panels. You need to not just be an electrician to receive the solar credits multiplied but also do an extra course on top of that to receive Clean Energy Council accreditation.⁴¹

3.61 As the Department of Climate Change and Energy Efficiency noted, despite a spike in solar panel installations in 2009, they were not aware of any resulting safety concerns.

One of the things that should be observed about solar panel installations is that, even though we had 50,000 installations in the last year, there have

37 Mr Adrian Ferraretto, Solar Shop Australia, *Proof Committee Hansard*, 28 May 2010, p. 40.

38 Mr Adrian Ferraretto, Solar Shop Australia, *Proof Committee Hansard*, 28 May 2010, p. 45.

39 Mr Adrian Ferraretto, Solar Shop Australia, *Proof Committee Hansard*, 28 May 2010, p. 44.

40 Mr David McCallum, Conenergy Australia, *Proof Committee Hansard*, 28 May 2010, p. 45.

41 Mr Adrian Ferraretto, Solar Shop Australia, *Proof Committee Hansard*, 28 May 2010, p. 43.

been no reports of serious safety outcomes. As far as we are aware, there have been no reports of fire or electrocution resulting from those installations, despite the very significant increase. You would have to say, from any perspective, that the incidence of very adverse outcomes from solar panels in Australia is very low.⁴²

3.62 The department noted that it was seeking to further improve the already robust safety regulations. Ms Thompson stated:

The current regulatory framework requires that installers of solar panels are in fact accredited through appropriate TAFE-type training arrangements. The CEC accreditation rules require that they be licensed electricians, and the CEC accreditation arrangement also requires that they use panels that meet Australian and international standards, both for the panels themselves, other modules of equipment that go on the roof and also with respect to the panel design or layout on the roof...

In addition, as well as extending, the deeming arrangement will also be extending the scope to cover other small-scale technologies, so we will be extending those arrangements to cover small-scale hydro and micro wind. We are also preparing regulations that will directly require that the installer be a licensed electrician. We are strengthening those arrangements through the regulatory framework⁴³

3.63 Mr Ferraretto, Solar Shop Australia, recommended that the Solar Credits multiplier should be reduced but cover larger capacity and more expensive systems. In the opinion of small-scale PV installers that appeared before the committee, this would ensure that systems would not be offered for free, but would provide a reasonable subsidy for a greater range of systems.⁴⁴

3.64 Mr David McCallum, ConEnergy, noted that by ensuring consumers had to spend some of their own money in order to purchase a solar PV system, they would have an incentive to pursue quality:

As soon as you can convert the consumer from a free system and they now have to put their hand in their pocket to acquire a product, their motives change. They start looking for the quality of the supplier, the quality of product and the performance of the system rather than the issue of, 'It doesn't matter. I don't care because I am not paying for it.'⁴⁵

3.65 Subsequent to the hearing, another solar PV market participant, Nu Energy, provided a submission to the committee that disagreed with the views of the PV

42 Ms Shayleen Thompson, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 54.

43 Ms Shayleen Thompson, Department of Climate Change and Energy Efficiency, *Proof Committee Hansard*, 28 May 2010, p. 53.

44 SolarShop Australia et. al, *Submission 24*, p. 2.

45 Mr David McCallum, Conenergy Australia, *Proof Committee Hansard*, 28 May 2010, p. 43.

installers that were present at the committee hearing. Nu Energy noted that the average price of a 1.5 kW system across Australia after rebates was approximately \$2500.⁴⁶ Nu Energy were of the view that exchange rate volatility, equipment availability and the phase out of Solar Credits and other rebates may act to increase this price. It therefore did not support the proposal outlined by Solar Shop Australia to reduce the Solar Credits multiplier and increase the system size to which it applied, on the grounds that it would raise the price of a 1.5 kW system and 'disadvantage working families, the elderly and rural communities.'⁴⁷

Committee view

3.66 The committee is concerned by the potential risks posed by demand in the household solar PV market. Notwithstanding the strength of the existing accreditation process, the regulatory improvements foreshadowed by the Department of Climate Change and Energy Efficiency, and claims that risks will be mitigated 'by monitoring the uptake in the market and reviewing the fixed price in 2014'⁴⁸ the committee is of the view that additional mechanisms could be considered for the SRES.

3.67 The explanatory memoranda notes that a full statutory review of the RET scheme is planned for 2014. The government will also commission a review in 2012 including possible mechanisms for setting the fixed price for small-scale RECs under the scheme that could apply from 1 January 2014.⁴⁹ In particular, the 2012 STC pricing review would be an opportunity to review the fixed price of STCs including considerations such as:

- the development of a framework in which REC prices in the future are set by an independent regulator;
- options to ensure consistent national assistance by incorporating consideration of state and territory assistance in setting small-scale REC prices;
- changes in the costs of the technologies; and
- the impact of the small-scale REC price and levels of small-scale technology deployment on the electricity market, including electricity prices.⁵⁰

3.68 The committee notes that this review may not occur in time to prevent a possible upsurge in demand under the SRES, particularly in relation to household PV systems.

3.69 The SRES component of the enhanced RET is uncapped and set at a fixed price in order to deliver certainty to both householders seeking to install solar panels

46 Nu Energy, *Submission 51*, p. 2.

47 Nu Energy, *Submission 51*, pp 2–3.

48 Explanatory Memorandum, p. 8.

49 Explanatory Memorandum, p. 8.

50 Explanatory Memorandum, p. 8.

and other renewable technologies, and to the installers of such systems. However, it is also the case that state and territory policies such as preferential feed-in tariffs are an important driver of demand for such systems and these policies are beyond the control of the Commonwealth.

Recommendation 1

3.70 The committee recommends that the government consider mechanisms to manage potentially high demand under the Small-scale Renewable Energy Scheme.

Cost-of-carry and cash-flow implications for small-scale installers

3.71 The operation of the clearing house and the method by which STC liability is calculated is described above. The main concern raised by solar hot water manufacturers and installers relates to length of time it may take to redeem the value of STCs through the clearing house.⁵¹ This was said to be important as it impacted on the ability of an installer to maintain adequate cash flow and the price it would receive for STCs if it chose to sell them through the private market instead.

3.72 The length of time it would take for an STC to sell through the clearing house relates directly to the STP, which is calculated based on (amongst other things) the expected uptake of small-scale technologies in that year.

3.73 Peter Sachs Industries, a manufacturer of solar water heating systems, noted the difficulty the Renewable Energy Regulator would likely have in estimating the STP accurately:

It is impossible for any manufacturer to forecast 12 month demand in the current market and we believe that the regulator would have an impossible job estimating demand across all deemed technology types.⁵²

3.74 Rheem Australia was concerned that in the event that uptake of small-scale technologies exceeded ORER's expectations, and hence led to an underestimate of the STP, there would be a surplus of STCs created relative to the amount required each quarter. This would mean that the clearing house may take longer than a quarter to sell an STC. This was an issue because of the 'cost-of-carry' associated with holding STCs.⁵³

3.75 The cost-of-carry refers to the time value of money. Put simply, \$40 in the future is worth less than \$40 today in real terms due to inflation. Similarly, holding an STC incurs an opportunity cost, as the funds used to purchase or acquire an STC could

51 See for example submissions by Rheem Australia, GWA Heating and Cooling and Peter Sachs Industries.

52 Peter Sachs Industries, *Submission 46*, p. 2.

53 Rheem Australia, *Submission 31*, p. 3.

have been invested in assets that appreciate in value or provide return on the investment. This means that STCs lose relative value over time.

3.76 Because STCs lose value over time, liable entities are likely to wait until STCs are required for surrender before purchasing them at the fixed price through the clearing house. In order to induce a sale prior to this time, small-scale installers would need to offer a discounted price reflecting the cost-of-carry. The committee was informed that, assuming an interest rate of seven per cent and an average time of six weeks for an STC to sell through the clearing house, the cost-of-carry would be approximately 30 cents per STC.⁵⁴ This would suggest a market value for STCs of \$39.70.

3.77 However, as the cost-of-carry would be directly related to the length of time it took for an STC to sell through the clearing house, any delay caused by an underestimated STP would result in a lower spot market price.

3.78 Rheem Australia noted the need for small-scale installers to maintain sufficient cash flow would necessitate them to sell STCs in the private market rather than waiting for a sale through the clearing house. As small-scale installers tended to offer discounted systems in return for receiving STCs from an installation, they held a large proportion of their revenue from installations in the form of STCs.⁵⁵

3.79 Similarly, Mr Michael Sachs of Peter Sachs Industries provided an illustration of the cash flow issue for small-sized businesses that install small-scale systems:

What would happen is you have a small operation like that installing, say, 40 water heaters a month and they are going to generate \$50,000 or \$60,000 worth of [STCs] resulting from those...

...just in a business that size you are going to have \$50,000 to \$60,000 a month accruing in money that is going to be taken out of circulation because those businesses have given those as point-of-sale discounts. So at the end of your three-month period you are going to have \$150,000 to \$180,000, which for any business, but particularly for a small business like that, is a significant amount of money. Add on to that the fact that, if you then have the risk that those certificates, or a portion of them may not be, may not actually be paid back out by the clearing house to that business at the end of that quarter and they may carry over, I think you have a system there that a lot of people will avoid, because there is not enough certainty involved in getting payment from it...⁵⁶

54 Department of Climate Change and Energy Efficiency, answer to question on notice, 28 May 2010 (received 2 June 2010).

55 Rheem Australia, *Submission 31*, p. 3.

56 Mr Michael Sachs, Peter Sachs Industries, *Proof Committee Hansard*, 28 May 2010, p. 16.

3.80 As such, many small-scale installers would be forced to sell STCs at less than the fixed price to reflect the cost-of-carry. GWA Heating and Cooling expressed a similar concern, stating:

We believe setting an annual target [through the estimation of the STP] could lead to a situation that if more [STCs] are generated than is estimated for the target to be taken up by the liable parties, it will result in a collapse of the [STC] value as smaller operators in the market will not be able to deal with the delay in their cash flow and sell [STCs] at unsustainable values.⁵⁷

3.81 Mr Matthew Sexton of Rheem Australia, noted that the solar water heater market was volatile, making accurate estimation of the STP difficult.

We believe there is a very high likelihood that there would be an underestimation of the [STCs] that would be created, given very frequent changes to federal and state policies on rebates and incentives...

...in 2009 the peak monthly volume of certificates generated for water heaters was just over one million in July, down to a low of about 300,000, most recently, in April [2010]. So there has been a great deal of volatility and the acceleration of demand for certificates we believe will conflict with the target setting on an annual basis. So, what we would recommend is that the regulator be given discretion to amend [the STP] on a much more frequent basis, and that should be at least quarterly.⁵⁸

3.82 The Department of Climate Change and Energy Efficiency recognised the issue raised by the small-scale installers, noting that it had been considered in the department's March 2010 discussion paper.

3.83 The department noted that the scheme incorporated a number of mechanisms to minimise the possibility of delays in selling STCs through the clearing house. These include:

- allowing system installers to continue to give householders an upfront discount at the point of sale;
- ensuring the clearing house transfers STCs on a 'first in, first out' basis;
- front-end loading (35 per cent in the first period) the required small-scale REC liability to encourage purchase of STCs by liable parties early each year; and
- ensuring the STC projection each year takes account of any excess STCs from the previous year.⁵⁹

57 GWA Heating and Cooling, *Submission 23*, p. 2.

58 Mr Matthew Sexton, Rheem Australia, *Proof Committee Hansard*, 28 May 2010, p. 15.

59 Department of Climate Change and Energy Efficiency, Answer to question on notice, 28 May 2010 (received 1 June 2010).

3.84 While recognising that STCs will trade slightly below the fixed \$40 figure in the spot market, the committee is of the opinion that the arrangements for transferring STCs through the clearing house are adequate. While presenting some risk to small-scale installers in terms of the cost-of-carry, the scheme also represents an open-ended commitment supporting small-scale technologies at a relatively stable price.

Chapter 4

Emissions-intensive trade-exposed industries

4.1 Provision is made in the bills for partial exemptions from the costs of the RET schemes for industries that are both emissions-intensive and trade-exposed (EITE).

4.2 As discussed earlier in this report, EITE industries are granted partial exemptions from the RET scheme depending on the level of their emissions intensity. The exemption is either 90 per cent for the most emissions-intensive activities (such as aluminium smelting and zinc smelting) or 60 per cent for industries that are less emissions-intensive (such as ethanol production).

4.3 The primary exemption applies to renewable electricity generation that is additional to that required under the original Mandatory Renewable Energy Target of 9500 GWh. This means that EITEs firms must surrender 10 per cent or 40 per cent of RECs needed to meet the additional targets set by the enhanced RET.¹

4.4 The bill would make only one change to the sections of the Act granting the partial EITEs exemptions. The bill specifies that the exemptions apply to both large and small scale liabilities.² That is, an EITE firm (or its supplier) will need to surrender only 10 or 40 per cent of the additional STCs and LRECs needed to meet its new target.

4.5 A secondary exemption applies to the 9500 GWh liability under the original MRET, under circumstances where the REC price increases above \$40. This second component of assistance is conditional upon passage of the Carbon Pollution Reduction Scheme (CPRS), recognising the cumulative cost impact of the CPRS and the RET.³

4.6 A more detailed explanation of the partial exemption arrangements for EITE activities is provided by the government's *Commentary on the draft regulations relating to partial exemptions under the Renewable Energy (Electricity) Act 2000*, of December 2009.⁴

1 For example in 2020, the main exemption applies to the difference between the 41 000 GWh LRET and the 9500 GWh MRET.

2 Explanatory Memorandum, pp 10 and 29.

3 This second component is known in the Renewable Energy (Electricity) Regulations 2001 as the 'additional assistance percentage', regulation 22ZA.

4 Australian Government, *Commentary on the draft regulations relating to partial exemptions under the Renewable Energy (Electricity) Act 2000*, December 2009, www.climatechange.gov.au/government/submissions/~media/publications/renewable-energy/RET-regs-commentary-pdf.ashx, (accessed 4 June 2010).

Effective rate of assistance

4.7 In its *Discussion Paper on Enhancing the Renewable Energy Target*, DCCEE stated that it is the government's intention to preserve the effective rate of assistance in respect of EITE activities provided for under the current RET.⁵

4.8 The Australian Industry Greenhouse Network (AIGN) submitted that proposing to retain an uncapped SRES and proposing that the LRET be increased to take up any shortfall in the SRES are inconsistent with that commitment.⁶ AIGN argued that, taken together, these changes will increase the total cost of electricity for industry. In AIGN's view the levels of the exemptions in the Act would need to be increased to 94.5 per cent and 66 per cent to preserve the effective rate of assistance.⁷

4.9 The Australian Aluminium Council submitted that EITE industries should receive a 'true' 90 per cent exemption, (ie 90 per cent of an industry's total liability) stating that the exemption in its proposed form would amount to assistance of only 55 per cent.⁸

4.10 The Cement Industry Federation informed the committee that it supported the proposition that EITE assistance should be simplified by providing a uniform rate of assistance across all components of the RET, including the original MRET target.⁹

4.11 WWF-Australia expressed its concerns over the continuing exemption granted to the EITE industries. It submitted that the exemptions may impede the early establishment of transformational clean energy industries and long-term sustainable jobs in Australia.¹⁰ WWF-Australia requested that the bill should be amended to require that this issue should be made the subject of particular inquiry into the scheme proposed for 2012.¹¹

Certain EITE industries

4.12 The aluminium production and alumina refining activities are eligible for the partial exemptions. The industry was represented at the committee's public hearing by the Australian Aluminium Council and a representative of Rio Tinto Alcan.

4.13 The Australian Aluminium Council stated that in its current form the bill would cost the industry in the range of \$0.7–1.4 billion over the next ten years and

5 *Enhancing the Renewable Energy Target: Discussion Paper*, Commonwealth of Australia, March 2010, p. 20.

6 Australian Industry Green House Network, *Submission 43*, p. [3].

7 Australian Industry Green House Network, *Submission 43*, p. [4]. (The 94.5 and the 66 per cent figures refer to the government's announcement in May 2009 of an additional 'Global Recession Buffer' which will provide additional exemptions for EITE industries for the first five years of the CPRS.)

8 Australian Aluminium Council Ltd, *Submission 21*, p.1.

9 The Cement Industry Federation Limited, *Submission 14*, p. 3.

10 WWF-Australia, *Submission 13*, p. 2.

11 WWF-Australia, *Submission 13*, p. 2.

that that is a significant cost exposure for an industry that sells into competitive international markets where it is a price taker.¹²

4.14 The committee asked the department to comment on the figures given by the Council. It did so, as follows:

The Australian Aluminium Council cost estimate of between \$0.7 billion and \$1.4 billion in the ten years to 2020 appears to include the cost impact of the existing 9,500 gigawatt-hour Mandatory Renewable Energy Target..., the expanded RET passed by Parliament in 2009 and the enhanced RET changes. The \$0.7 billion estimate is a reasonable measure of the total cost of the RET but not the policy changes for the enhanced RET.¹³

4.15 The Cement Industry Federation informed the committee that it had a particular concern that cement milling was excluded from the proposed EITE definition which covers only clinker production. It submitted that 48 per cent of its power consumption was for cement milling with 47 per cent for clinker production.¹⁴

Committee view

4.16 EITE industries were not exempt under the MRET, but they were granted partial exemptions of 60 or 90 per cent of their additional liability when the expanded RET was legislated in 2009. The bill before the committee does not propose any change to the exemptions provided for in the Act.

4.17 The committee considers that there are no pressing reasons why EITE activities should receive additional assistance under the bill. In relation to the proposition that EITE activities should receive exemption for their liabilities under the former MRET, there was no evidence presented to the inquiry that the industries were significantly or disproportionately disadvantaged under that scheme. On that basis, there would seem to be no particular reason why they should now be exempted from liability for their share of the former target.

4.18 There was no evidence before the committee that EITE activities had suffered damage under the current RET scheme. The committee notes also that the bills establishing the RET were passed with the support of all parties as recently as August 2009.

4.19 However, given the concerns expressed by the aluminium and cement industries and the emissions intensity and export oriented nature of the aluminium industry in particular, the committee would expect that the matter of the exemptions for EITE activities will be covered in the 2014 statutory review of the scheme.

12 Mr Miles Prosser, Executive Director, Australian Aluminium Council, *Proof Committee Hansard*, p. 27.

13 Department of Climate Change and Energy Efficiency, Answers to Questions on Notice, May 2010, p. 10.

14 Cement Industry Federation, *Submission 14*, pp 1–2.

Recommendation 2

4.20 The committee recommends that, subject to the recommendation contained elsewhere in this report, the Senate pass the Renewable Energy (Electricity) Amendment Bill 2010 and two related bills during the 2010 winter Parliamentary sittings.

Senator Anne McEwen
Chair

Coalition Senators' Additional Comments

Coalition Senators accept the intent of this legislation and are sympathetic to the calls for it to be dealt with during the remaining sittings of the winter session. We appreciate the need to provide greater investment certainty to the renewable energy sectors targeted.

However, we are also mindful of warnings that have been made in this sector previously and wish to see risks that still exist under these Bills addressed prior to their passage. We remember the risk of investment uncertainty for some major projects being raised at the time these issues were last considered, just last year. And we recall the problems of boom-bust cycles for some renewable sectors, especially solar photovoltaics, which have flowed from various government incentives. We have since seen the troubles caused by mismanagement of a demand driven scheme, in home insulation.

It is important that the opportunity presented by the debate of these Bills to heed warning calls from industry and others is taken, so that mistakes of the past are not repeated in this legislation.

Uncapped liability under the Small-scale Renewable Energy Scheme (SRES)

The majority report notes that the possible risk associated with establishing an uncapped SRES liability was an issue commonly raised by witnesses and submitters. Coalition Senators once again highlight the extent of concerns about this uncapped liability, as demonstrated by the many companies and industry groups who provided evidence to the inquiry.

A3P:

Capping the price but not the quantity of small-scale renewable electricity certificates introduces uncertainty into the electricity price for consumers. This problem is compounded in the case of electricity-intensive processes for which electricity makes up a significant proportion of their operating costs. The small-scale portion of the RET should be capped, or removed from the RET altogether.¹

Alcoa:

... the SRES portion is an uncapped volume which is a risk placed entirely on large energy users in favour of small scale renewable generators.

Transferring this risk to liable entities significantly reduces their ability to predict RET cost impacts over the life of an investment and therefore may dampen investment activity in electricity intensive activities. This uncapped

1 A3P, *Submission 42*, p. 2.

impact can be avoided by capping the SRES pool or limiting the exposure of highly electricity intensive EITE activities to the SRES.²

The Australian Industry Greenhouse Network:

The effect of the SRES proposal is to remove all price risk from SRES suppliers and to substantially reduce the price risk faced by LRET suppliers. However, these risks have not been removed from the renewables markets – rather, they have been transferred to liable parties and electricity consumers.³

The Energy Supply Association of Australia noted that the risk associated with the uncapped liability of the SRES would add to existing risks in the electricity market:

One of the issues that the industry I represent faces very substantially, right now, on every front is an enormous amount of risk. It is being put at risk because of delays, because of changes and because of open-ended schemes and, quite frankly, it is very hard to make efficient investment decisions when there is uncontrollable risk.⁴

Hydro Aluminium:

Key areas that need to be considered in order to ensure the viability of electricity-intense industries such as our aluminium smelter include...A cap on the quantity of SRECs that can be generated or limit the exposure of EITE industries – thus providing certainty to all investors (small-scale renewable, large-scale renewable and electricity users).⁵

TRUenergy:

Much of the convoluted and complex regulatory mechanics are only necessary to cap the SRES volume/liability each year while avoiding an overall scheme cap. It is understood that this is an attempt to provide liable parties with a degree of certainty over their liability while maintaining a guaranteed subsidy level to suppliers of small renewable technology.

However, this approach fails to achieve either of these objectives, and does so at the expense of simplicity and administrative efficiency.⁶

Coalition Senators are concerned that the risks associated with inaccuracy in estimating the uptake of SRES, driven by a variety of cost factors, impact of subsidies and changes in consumer sentiment, are ultimately borne by electricity consumers. We believe that for the liable entities responsible for purchasing the Small-scale

2 Alcoa, *Submission 18*, p. 5.

3 Australian Industry Greenhouse Network, *Submission 43*, p. 1.

4 Mr Brad Page, Energy Supply Association of Australia, *Committee Hansard*, 28 May 2010, p. 11.

5 Hydro Aluminium Kurri Kurri Pty Ltd, *Submission 1*, p. 1.

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

Technology Certificates (STCs) created by the SRES the proposed forecasting mechanisms for setting annual responsibilities fail to provide reasonable levels of certainty.

A particular concern for Coalition Senators is that these unlimited liabilities, imposed by the Commonwealth, are actually significantly influenced by the impact of State and Territory policies, as highlighted for example by the Cement Industry Federation:

Many of the drivers that created falling REC prices within the RET are now likely to put upward pressure on electricity prices for electricity consumers. These drivers include the seemingly endless addition of rebates and feed-in-tariffs offered by multiple Governments in effect competing to support small scale renewable energy generation.

The uncertainty on price caused by this change needs to be addressed through adequate mechanisms that ensure the size of the SRES does not greatly exceed the 4000 GWH target of the SRES. The committee should be mindful of the fact that state government incentives combined with the SRES will as a combined incentive drive the uptake of the SRES.

The CIF has previously recommended to the Australian Government, capping the size of the SRES and note this suggestion has not flowed through to the legislation. In the absence of an actual cap, it will be important to ensure there are adequate policy levers available to the Australian Government to control a blow out in the uptake of the SRES.⁷

Even the Minister for Climate Change, Energy Efficiency and Water, Senator the Hon Penny Wong, acknowledged this problem under questioning in Senate Budget Estimates hearings:

What you are alluding to is actually a real policy issue, which is that this market is not only guided by what occurs through Commonwealth legislation and market responses; there are a range of other policies that impact upon the market which state or local government can put in place. In an ideal world, you would have simply one policy framework which applied across the country, but the reality is that state governments—and possibly local governments—will have their own views about what additional assistance they want to provide to renewable energy.⁸

While the "ideal world" referred to by Minister Wong may not exist, Coalition Senators are disappointed that more concrete steps have not been taken by this Government to align and coordinate state initiatives and incentives in this policy area. This lack of coordination further exposes all parties, both those creating STCs and those liable for them, to uncertainty. More so, it exposes the scheme to pressure from unpredicted demand levels as a result of state initiatives which either encourage or

7 Cement Industry Federation, *Submission 14*, p. 3.

8 Senator the Hon Penny Wong, Senate Budget Estimates, *Committee Hansard*, 27 May 2010, p. 14.

discourage participation in the scheme. This compromises the scheme's effectiveness and could lead to a range of undesirable and unanticipated consequences.

Regrettably, there appears to be no easy way to change the proposals in these Bills without shifting the balance of uncertainty from one party to another. Fixed annual caps on the number of STCs that can be generated will, of course, establish a level of uncertainty for those companies creating STCs, with the risk that reaching the cap prior to the end of the year would create a price spike and presumed demand slump until a new year, with a new quota of STCs, commenced.

However, Coalition Senators are nonetheless attracted to the certainty for liable entities that concrete annual caps would establish. Caps would help to limit the extent of undesirable consequences which could otherwise flow from actual demand diverging widely from predicted demand. We also believe that the establishment of such caps would place greater responsibility on the Commonwealth, state and local governments to avoid new policy measures that could create either spikes or slumps in demand in future.

Recommendation 1

That the Government consider a model to release fixed, annual quotas for the next two years capping the size of STCs, with the quota to be announced before the commencement of each year.

Recommendation 2

That these annual quotas be set at levels consistent with an overall generation target for the SRES of achieving 4000 GWh by 2020.

Impact of the Solar Credits Multiplier

Coalition Senators noted the evidence provided concerning the impact of the Solar Credits Multiplier, which is also canvassed in the majority report. Several companies raised concerns that the current impact of the multiplier risked creating an unsustainable boom, which could hurt industry standards and fail to optimise environmental outcomes.

Greenbank Environmental highlighted the impact of past incentives, as well as the emerging impact of the current multiplier:

Last year, we had 65,000 rebates of \$8,000 each through the department of climate change. Do the maths on that and it is quite significant. There is a real possibility that the SRET, being uncapped, will again deliver 65,000 systems into the nation. That will be another pass through to Mr and Mrs Jones and will again drive the price of electricity up.

Currently, in New South Wales, as I said in my submission, there are companies giving away 1.5 kilowatt systems for free. If it continues at this

rate, we will soon end up with a situation along the lines of the insulation program, which would be a disaster for the renewable energy industry, as it has been for the insulation industry.⁹

The Solar Shop, a potential generator of STCs, emphasised this message that due to the decreasing costs of solar photovoltaic (PV) systems the multiplier was now exposed as being too generous:

It is unsustainable for the industry to have solar power systems available at no cost to consumers. Solar power systems offered at no or low cost encourage low standards in materials, poor returns on financial and environment investments, and could cause long term damage to the entire industry.

Under the recent Enhanced Renewable Energy Target discussion paper, members of the domestic solar power industry called for a change to the Solar Credits Scheme to ensure the longevity and stability of the industry.¹⁰

A number of companies joined together to propose to the committee changes to the multiplier, specifically suggesting that there be an increase in the maximum allowable system size from 1.5kW to 3kW, with a commensurate reduction in the size of the multiplier from five to three. Strong evidence was provided to support this proposition.

Conergy:

And in support of that, Conergy AG is a manufacturer of photovoltaic modules. The price point of production is almost at its lowest position and going forward even in increased volumes you would not see significant price reductions that would allow a three-by multiplier for a three-kilowatt to meet the price point of the system to end up with a free system in that category. It would not happen.¹¹

Solar Shop:

Our proposed change to the multiplier is likely to see an appropriate number of RECs (be it phantom or real) on the market produced from Small Scale Renewable Energy Systems, but see a higher percentage of RECs that are attributed to actual renewable energy. It also has the potential to see larger systems installed which is a better outcome for the consumer and better outcome for the environment. Most importantly it will remove systems being offered at low or no cost to the consumer. This will ensure that the installation standards remain optimised and that the industry can move away from boom-bust cycle, securing the industry, securing jobs and increasing Australia's renewable energy capacity.¹²

9 Ms Fiona O'Hehir, Greenbank Environmental, *Committee Hansard*, 28 May 2010, p. 46.

10 SolarShop Australia, *Submission 24*, p. 1.

11 Mr David McCallum, Conergy Australia, *Committee Hansard*, 28 May 2010, p. 46.

12 Mr Liam Hunt, SolarShop Australia, Answer to Question on Notice.

The Solar Shop further argued that such changes were about sustainability and self sufficiency, not just of an environmental nature, but of the renewables industry overall:

Our ultimate aim as an industry is to be self-sufficient, so we are not relying on a mechanism from the federal government to encourage people to purchase solar. That is why we think the solar credit scheme is a good one and the proposed changes we have put forward will enable us, as an industry, to grow to a level where we will be self-sustaining.¹³

Coalition Senators note Recommendation 1 of the majority report, largely driven by this evidence, that mechanisms to manage high demand be considered. However, Coalition Senators strongly believe that the risks identified by industry in the course of this inquiry warrant more immediate changes to avoid yet another unsustainable boom in the solar PV sector.

Under existing conditions, Coalition Senators believe there is too great a risk of unsustainable overheating of the small-scale market and accept the arguments of solar PV businesses that longer term sustainability for the renewable energy industry would be better achieved through a lower Solar Credits Multiplier, but available to larger generation capacity units.

Recommendation 3

That the Government consider amending the Solar Credits Multiplier to increase the maximum allowable system size and decrease the size of the multiplier.

EITE Assistance

Coalition Senators note concerns expressed by some representatives of emissions-intensive, trade-exposed (EITE) activities about the adequacy of assistance under the Renewable Energy Target (RET) and the linkage of some changes to passage of legislation enabling the Carbon Pollution Reduction Scheme (CPRS). Particular concerns were expressed from the aluminium and alumina industries, some of which are canvassed in the majority report.

Rio Tinto highlighted remaining links between EITE assistance under the RET and the CPRS, specifically pointing to the uncertainty that now exists around the CPRS given the Government's announced deferral of its implementation:

For the electricity intensive industries, such as aluminium smelting, where internationally competitive electricity prices are vital, the proposed EITE partial exemption will become even more inadequate. The pre-condition of passage of the CPRS legislation before activities become eligible for partial exemption should be removed given the announcement on 27 April 2010 of

13 Mr Liam Hunt, SolarShop Australia, *Committee Hansard*, 28 May 2010, p. 44.

the delay of the CPRS until "*after the end of the current commitment period of the Kyoto Protocol and only when there is greater clarity on the actions of major economies including the US, China and India.*"¹⁴

The partial exemptions granted to EITE industries that are proposed appear overly complex to Coalition Senators and unreasonably reliant on the uncertain passage of the CPRS sometime in the future. The different exemptions for energy generated under the new Renewable Energy Target as against the original Mandatory Renewable Energy Target are a recipe for uncertainty for these industries.

Recommendation 4

That the Government consider measures to remove any linkage of EITE exemptions under the RET to the passage of the CPRS and simplify the operation of such exemptions.

**Senator Mary Jo Fisher
Deputy Chair**

Senator the Hon. Judith Troeth

Senator Guy Barnett

Senator Simon Birmingham

Australian Greens' Additional Comments

The Greens believe that the Bill should be passed during the current sitting fortnight but that it could be improved.

These additional comments respond only to the Committee's report. Further detail about the Greens position on the Bill and general criticism of the Government's lack of support for the renewable energy sector will be included in my second reading speech.

1) Banked Renewable Energy Certificates

The Committee dismisses industry concerns about the level of banked Renewable Energy Certificates and instead relies solely on the Department's commissioned modelling (conducted by MMA) to form the conclusion that banked RECs will not unduly crowd out investment in the near term. The Greens believe that this is a risky conclusion, especially given the Department's poor record in forecasting the industry's growth and REC prices. It also demonstrates that the Government would not be overly concerned by further delays in investment in renewables.

The Greens will endeavour to move an amendment to mitigate this risk.

2) Overheating the SRES market

The Greens welcome the Committee's concern that the SRES market may overheat if the cost of installing PV systems falls too low, but we are disappointed that the committee had no specific recommendation as to how to rectify this problem. Again, the Greens will move an amendment to address this concern.

3) Emission intensive trade exposed industries

The Greens do not support the partial exemptions provided to the emission intensive trade exposed industries because a) many other nations have similar (often stronger) renewable energy support policies, yet virtually none provide any exemptions to their EITE's and b) even with the cost of the RET, Australian electricity prices will remain very competitive.

Senator Christine Milne

Appendix 1

Submissions, tabled documents and answers to questions taken on notice

Submissions

- 1** Hydro Aluminium Kurri Kurri Pty Ltd
- 2** Pacific Hydro
- 3** National Association of Forest Industries
- 4** Gove Aluminium Finance Limited
- 5** Sucrogen
- 6** Roaring 40s
- 7** AGL Energy Limited
- 8** GE Energy
- 9** Rio Tinto
- 10** LMS Generation Pty Ltd
- 11** Hydro Tasmania
- 12** Infigen Energy
- 13** WWF-Australia
- 14** Cement Industry Foundation
- 15** Greenbank Environmental
- 16** wellbeinggreen
- 17** Mr Grant McDowell, The Solar Farming Company Pty Ltd trading as SolarFarm
- 18** Alcoa of Australia
- 19** Alumina Limited

- 20 Australian PV Association
- 21 Australian Aluminium Council
- 22 Vestas
- 23 GWA Heating and Cooling
- 24 Solar Shop Australia Pty Ltd
- 25 Visy
- 26 Energy Retailers Association of Australia (ERAA)
- 27 Moreland Energy Foundation and Alternative Technology Association
- 28 TRUenergy
- 29 Energy Developments Limited, Envirogen Pty Ltd and Clarke Energy
- 30 Origin
- 31 Rheem Australia Pty Ltd
- 32 Mr Geoffrey Blatch
- 33 Sustainable Energy Now Inc.
- 34 Union Fenosa Wind Australia
- 35 Mr Alexander Fullarton
- 36 Confidential
- 37 Australian Sugar Milling Council (ASMC)
- 38 Clean Energy Council
- 39 REpower Australia
- 40 Mr Angus King
- 41 Energy Supply Association of Australia
- 42 a3p

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- 43 Australian Industry Greenhouse Network
- 44 Australian Geothermal Energy Association
- 45 Australian Petroleum Production And Exploration Association Limited
- 46 Peter Sachs Industries Pty Ltd
- 47 WA Sustainable Energy Association Inc (WA SEA)
- 48 Australian Bankers' Association Inc
- 49 The Wind Turbine Company
- 50 Mr Des Wyatt, Wyatt & Associates
- 51 NU Energy
- 52 DCM Solar Pty Ltd
- 53 Northern Territory Government
- 54 Confidential

Tabled documents

The true costs and benefits of the enhanced RET, 25 May 2010, tabled by the Clean Energy Council (public hearing, 28 May 2010, Canberra)

A copy of: Contract for Spot Purchase/Sale of Environmental Products Contract Details; Environmental Products Spot Physical Terms and Conditions (March 2009 edition); Explanatory Notes, Environmental Products Spot Physical Contract; List of Registered Agents, tabled by Greenbank Environmental (public hearing, 28 May 2010, Canberra)

Chart of estimated impact of the enhanced RET on retail electricity prices, tabled by the Department of Climate Change and Energy Efficiency (public hearing, 28 May 2010, Canberra)

Answers to questions taken on notice

AGL Energy Limited – Answers to questions taken on notice (from public hearing of 28 May 2010, Canberra)

Rheem Australia Pty Ltd – Answers to questions taken on notice (from public hearing of 28 May 2010, Canberra)

Department of Climate Change and Energy Efficiency – Answers to questions taken on notice (from public hearing of 28 May 2010, Canberra)

Solar Shop Australia Pty Ltd – Answers to questions taken on notice (from public hearing of 28 May 2010, Canberra)

Energy Supply Association of Australia – Answers to questions taken on notice (from public hearing of 28 May 2010, Canberra)

Appendix 2

Public hearings

Friday, 28 May 2010, Canberra

Pacific Hydro

Mr Lane Crockett, General Manager, Australia

Ms Clare Maries, Project Manager

Vestas

Mr Ken McAlpine, Policy and Government Relations Manager

Infigen

Mr Jonathan Upson, Senior Development Manager

Energy Supply Association of Australia

Mr Brad Page, Chief Executive Officer

Rheem Australia

Mr Matthew Sexton, Chief Executive Officer

Mr Chris Mundy, General Manager, Renewable Energy Group

GWA Heating and Cooling

Mr Len Place, Corporate Affairs Manager

Peter Sachs Industries Pty Ltd (Saxon)

Mr Michael Sachs, Director

AGL Energy Limited

Mr Tim Nelson, Head of Economic Policy and Sustainability

Mr Simon Kelley, Manager, Energy Policy and Regulation

Clean Energy Council

Mr Matthew Warren, Chief Executive Officer

Mr Robert Jackson, Deputy Director

Australian Aluminium Council

Mr Miles Prosser, Executive Director

Greenbank Environmental

Ms Fiona O'Hehir, Chief Executive Officer

SolarShop Australia

Mr Adrian Ferraretto, Managing Director

Mr Liam Hunt, Communications Manager

Kyocera Solar

Mr Mark Shakeshaft

Conergy Australia

Mr David McCallum

Department of Climate Change and Energy Efficiency

Mr Geoff Leeper, Deputy Secretary

Ms Shayleen Thompson, First Assistant Secretary, Strategies and Coordination Branch

Mr Robert Raether, Assistant Secretary, Renewables and Reporting Branch

Office of the Renewable Energy Regulator

Mr Andrew Livingston, Renewable Energy Regulator

Mr Amarjot Singh, Deputy Renewable Energy Regulator, Market Operations