

## 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 technologies<sup>1</sup> 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.

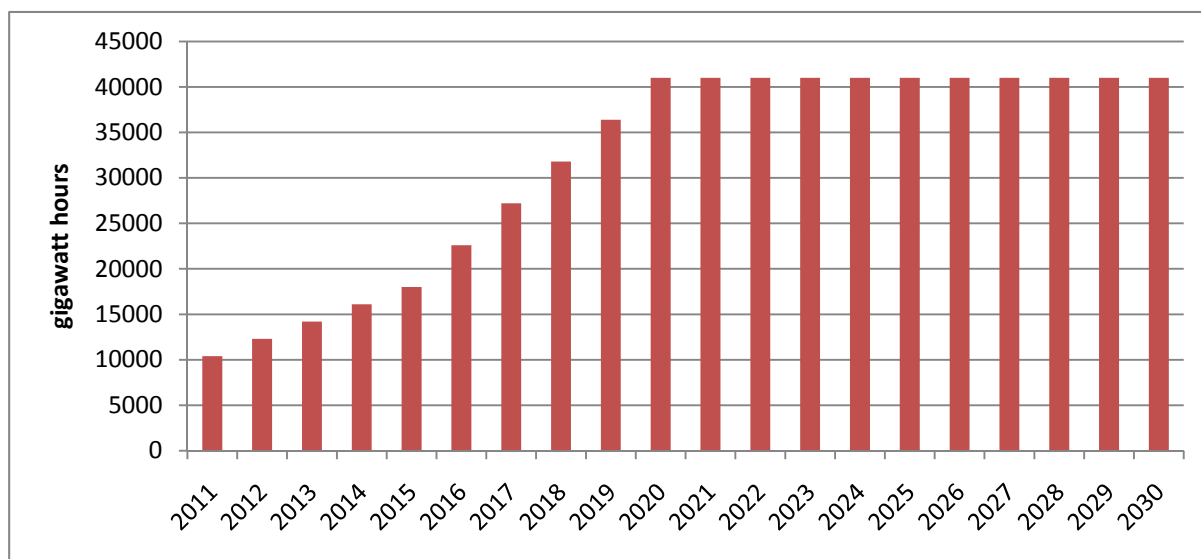
2.4 The annual LRET targets that are set by the bill start at 10 400 GWh in 2011, increasing to 41 000 in 2020 and remaining at that level until 2030 (see Figure 1). The annual targets and the final target proposed by the bill are lower than the targets currently required by the Act.<sup>2</sup> This 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.<sup>3</sup>

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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.<sup>4</sup>

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.<sup>5</sup>

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.<sup>6</sup> 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.<sup>7</sup>

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.<sup>8</sup>

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.<sup>9</sup>

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.<sup>10</sup>

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.<sup>11</sup> 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.<sup>12</sup>

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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*<sup>13</sup>

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.<sup>14</sup>

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'.<sup>15</sup>

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.<sup>16</sup>

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'.<sup>17</sup> 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.<sup>18</sup>

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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.<sup>19</sup> 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'.<sup>20</sup>

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.<sup>21</sup>

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.<sup>22</sup> The model necessarily makes

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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.<sup>23</sup>

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.<sup>24</sup>

2.26 The ESAA suggested that by 2020 the technologies would demand that the LREC price would approach the shortfall charge,<sup>25</sup> 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.<sup>26</sup>

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.<sup>27</sup> 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.<sup>28</sup>

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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.

