INTRODUCTION

The International and Domestic Context

1.1 The impetus for the Renewable Electricity Bills arises from Australia's potential obligations under the Kyoto Protocol to the Framework Convention on Climate Change, which was agreed in December 1997 and signed by Australia in April 1998. Australia has not yet ratified the Protocol, and to date an insufficient number of countries have ratified to enable the Protocol to come into force. Many signatories appear to be waiting for a series of outstanding rules, participation and design issues to be resolved, possibly at the 6th Conference of the Parties at the Hague in November 2000, before they will consider ratification.

1.2 Already over 60 countries have indicated their intention to ratify the Kyoto Protocol, including Japan, New Zealand and the European Union.

1.3 Signatories to the Kyoto Protocol have agreed to reduce their greenhouse emissions in reference to a base year of 1990, during the first 'commitment period' from 2008-2012. The Protocol uses a formula of differentiated targets for nations and groups of nations, under which national circumstances can be taken into account.

1.4 The European Union 'bubble' committed to reduce emissions to 92 per cent of 1990 levels, the United States 93 per cent, Japan 94 per cent, and Canada 94 per cent. New Zealand was allowed an *increase* to 101 per cent and Australia to 108 per cent of its 1990 level. These commitments combined would lead to a general five per cent reduction. It is estimated that the effect of the FCCC Annex I (developed) countries commitments at Kyoto, if met, would merely be to stabilise the level of developed country emissions at 1990 levels, and would have little impact upon developing country emissions.[1]

1.5 It has been estimated that this would retard global temperature increase on average between 4-14 per cent by the end of the century, that is, between 0.08°C and 0.3°C. The impact on sea-level rise is similarly modest, with a reduction of only one centimetre by mid-century and a few centimetres by the end of the century.[2] These can be compared with a rise, from 1860 to 1998, of global surface temperatures of 0.6°C, and mid-range projections by the International Panel on Climate Change (IPCC) of an additional increase of 2.0°C by 2100. Sea levels have risen between 10-25 cm since

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1 Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, London: The Royal Institute of International Affairs, 1999, pp 118, 155.

2 Michael Grubb, *The Kyoto Protocol: A Guide and Assessment*, London: The Royal Institute of International Affairs, 1999, pp 156-157.

the end of the 19th century and mid-range IPCC projections suggest a further rise of 50 cm by 2100.[3]

1.6 Many thus acknowledge that, as difficult as the first commitments will be to meet, they are only an initial step in tackling the problem of climate change. Targets will be set at the 2005 Conference of the Parties for the second five-year commitment period 2013-2018, and future targets are likely to be more stringent than those for 2008-2012. This is acknowledged by the Government, which states that: 'the issue of greenhouse gas emissions reduction is expected to be ongoing far beyond the current commitment period, with the real potential that we will face further, and stricter, targets in the future'.[4] This will require an effort to put Australia's emissions trajectory on a downward path towards a potential target well below 108 per cent in 2013-2018.

1.7 The IPCC predicts temperature increases of 1°C-3.5°C by 2100, and sea level rises of up to 95 cm as a result of the increasing concentration of greenhouse gases in the atmosphere. This would be a rate of warming greater than the last ten thousand years, and the IPCC cautions that only fifty to ninety per cent of the total temperature change would have been realised by 2100 owing to the thermal inertia of the oceans. Temperatures and sea levels would continue to increase beyond that time, even if the level of greenhouse gases had been stabilised.[5]

1.8 These changes are predicted to have profound effects on climate, ecosystems, human health, agriculture and biodiversity. There will be dramatic changes in rainfall, both in volume and intensity; a reduction in biodiversity and an increase in species extinctions; changed growing seasons and boundaries between vegetation types; increased desertification; serious risks to coral reefs and other sensitive coastal ecosystems; and the flooding of low lying islands and coastal areas such as river deltas in Bangladesh and Egypt. There may be a reduction in fresh water supplies, an increased incidence of vector-borne diseases such as malaria, and increases in mortality and illness from heat waves and heat-sensitive diseases like cholera.[6]

1.9 In Australasia, greenhouse-induced climate change is likely to exacerbate existing land management, weed and pest problems, damage the Great Barrier Reef, and produce dramatic regional fluctuations in rainfall, or worsened drought. These may have the potential to force crop and pastoral stock changes and damage important

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3 Intergovernmental Panel on Climate Change, *IPCC Second Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the UN Framework Convention on Climate Change,* Clause 2.7.

4 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000,* p 5.

5 Intergovernmental Panel on Climate Change, *IPCC Second Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the UN Framework Convention on Climate Change,* Clause 2.7.

6 Intergovernmental Panel on Climate Change, *IPCC Second Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the UN Framework Convention on Climate Change.*

agricultural and tourism industries. Damage from extreme weather events is also a possibility.[7]

1.10 The absolute tonnage of CO_2-equivalent emissions allowed Australia under the Kyoto Protocol is currently subject to some uncertainty, due to the effect of Clause 3.3 which allows Australia to calculate the effect of land use change on its 1990 baseline. Notwithstanding such uncertainties, Australia's emissions have already exceeded the limit of 108 per cent in 2010, and are rising at increasing rates.

1.11 According to the 1998 National Greenhouse Gas Inventory (NGGI), total net emissions rose by 16.9 per cent between 1990 and 1998, from 384.9 million tonnes to 455.9 million tonnes CO_2-e. Stationary energy, which is the sector this legislation will affect, was the major contributor to this total in 1998, at 56.8 per cent of total national emissions. Between 1990 and 1998 emissions in this sector increased by 24.3 per cent and in the period 1997 to 1998 alone increased by 7.6 per cent.[8]

1.12 Electricity generation contributed 65.2 per cent of 'stationary energy' emissions and 37 per cent of total national emissions in 1998. Electricity emissions are currently showing phenomenal levels of growth: 30.6 per cent between 1990 and 1998 and 10.3 per cent from 1997 to 1998. The main reasons for this growth are increased demand, and an increase in the emissions intensity of generation as Victorian brown coal power has become more price-competitive in the new deregulated National Electricity Market (NEM).[9] This is a very disturbing trend so far out from the first commitment period, and it is clear that constraining energy emissions will be a difficult task in Australia's abatement effort.

1.13 The mandatory target for the uptake of renewable energy in power supplies was a first outlined in the Prime Minister's statement *Safeguarding the Future: Australia's Response to Climate Change*:

> Targets will be set for the inclusion of renewable energy in electricity generation by the year 2010. Electricity retailers and other large electricity buyers will be legally required to source an additional 2 per cent of their electricity from renewable or specified waste-product energy sources by 2010 (including through direct investment in alternative renewable energy

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7 Robert Watson, Marufu Zinyowera, Richard Moss, David Dokken ed. *The Regional Impacts of Climate change: An Assessment of Vulnerability, Summary for Policymakers* (Intergovernmental Panel on Climate Change, 1997); Ove Hoegh-Guldberg, *Climate Change, Coral Bleaching and the Future of the World's Coral Reefs* (Sydney: Coral Reef Research Institute, 1998); Climate Impact Group, *Climate Change Scenarios for the Australian Region* (Melbourne: CSIRO Division of Atmospheric Research, 1996).

8 Australian Greenhouse Office, *National Greenhouse Gas Inventory 1998*, p A-3.

9 Australian Greenhouse Office, *National Greenhouse Gas Inventory 1998*, pp A-8-9; Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 6; See also Allen Consulting and McLennan Magasanik Associates, *Energy Market Reform and Greenhouse Gas Emissions Reductions: A Report to the Department of Industry, Science and Resources*, March 1999.

> sources such as solar water heaters). This will accelerate the uptake of renewable energy in grid-based power applications and provide an ongoing base for commercially competitive renewable energy. The program will also contribute to the development of internationally competitive industries which could participate effectively in the burgeoning Asian energy market.[10]

1.14 The Renewable Energy Bills give effect to this pledge. They are the first of a series of policy initiatives currently under consideration by the Government which could assist in reducing emissions from electricity generation. The others, which include the inclusion of greenhouse emissions as a trigger for Commonwealth assessment under the Environment and Biodiversity Conservation (EPBC) Act, and a system of tradeable emissions permits, have been the subject of detailed government analysis and public consultation.[11]

The Committee's Inquiry

1.15 On 29 June 2000, the Senate referred the Renewable Energy (Electricity) Bill 2000 and the Renewable Energy (Electricity) (Charge) Bill 2000 to the Environment, Communications, Information Technology and the Arts References Committee for inquiry and report by 15 August 2000. (That Senate resolution superseded the resolution adopted the previous day, 28 June 2000 relating to a Selection of Bill Committee report referring the Bills to the Legislation Committee for Environment, Communications, Information Technology and the Arts).

1.16 The Committee advertised its inquiry on the Internet and wrote to organisations that had previously expressed interest in the issue of reducing greenhouse gas emissions, through the Committee's concurrent inquiry into Global Warming. The Committee received 30 submissions and 7 supplementary submissions. It held 2 days of public hearings at Parliament House in Canberra at which it heard 29 witnesses. Lists of the submissions received and of the witnesses heard by the Committee are at Appendix 1 and Appendix 2 of this report.

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10 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 5.

11 See Environment Australia, *Consultation Paper: Possible Application of a Greenhouse Trigger under the Environment Protection and Biodiversity Conservation Act 1999*, December 1999. See also the Australian Greenhouse Office's four National Emissions Trading Discussion Papers: *Establishing the Boundaries*, March 1999; *Issuing the Permits*, June 1999; *Crediting the Carbon*, October 1999; *Designing the Market*, December 1999.

THE BILLS

The provisions and objectives of the Bills

1.17 The two bills implement the introduction of a mandatory target for the uptake of renewable energy in Australian power supplies. *The Renewable Energy (Electricity) Bill 2000* ('The Bill") contains provisions for the majority of the measure, including the target and the required path towards meeting it, the accreditation of power suppliers, the designation of liable parties, the rules for the generation of certificates and for trade in certificates, a renewable energy shortfall charge, the submission of statements, appeals, and provisions for the administration of the scheme. *The Renewable Energy (Electricity) (Charge)Bill 2000* legislates the amount of the shortfall charge. The definition of eligible renewable energy sources will be published in a regulation subsequent to the passage of the Bills.

1.18 Key provisions of the measure include:

- *A mandatory target, to be reached by a dual-linear path.* This target will be 9500 GWh of additional renewable energy by 2010, which is to be maintained until 2020. The target is required to be reached through a 'dual-linear' path of increases: a shallower path from 400 through 3400 GWh p.a. from 2001-2005, and a steeper path from 4500 to 9500 GWh p.a. from 2006-2010, levelling out at 9500 GWh p.a. between 2010-2020.[12]
- *A two-faceted approach to participation and liability.* To be accredited as an 'eligible power station' a generator must supply an 'eligible renewable energy source' at a volume greater than 0.5 MWh p.a. By doing so they create 'renewable energy certificates' which can be traded on the open market and sold to liable entities. 'Liable entities' are those persons who make wholesale and 'notional' wholesale purchases of electricity from the National Electricity Market Management Company (NEMMCO) or from a generator (e.g. large electricity retailers such as ACTEW and Great Southern Energy). They must be connected to a grid of 100MW or more. Liable entities will be the parties who are required to meet the mandatory targets and who will be liable to the shortfall charge if they fail to do so.[13]
- *Self-Generation is excluded from liability*. Self-generators' are able to generate renewable energy certificates but will not be liable entities. They currently account for 0.2 per cent of renewable generation. The Government has taken a policy decision to exclude them from coverage under the measure.

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12 *The Renewable Energy (Electricity) Bill 2000*, Section 40, p 25; Australian Greenhouse Office, Submission 5, Attachment B, Graph: Phasing the target.

13 *The Renewable Energy (Electricity) Bill 2000*, Sections 8-28, 31-38.

- *Eligible Renewable Energy Sources.* The list and precise definition of 'eligible renewable energy sources', under Section 17, is to be specified in regulations. It is thus currently subject to some definitional and regulatory uncertainty. However it specifically excludes fossil fuels and waste products such as waste coal mine gas. It is expected that a range of renewable sources will be allowed, including solar, wind, hydro, biomass from forestry and agriculture, tidal, geothermal, solar hot water, fuel cells and cofiring renewables with fossil fuels. It is likely also that biomass wastes from the 'sustainable' logging of native forests will be allowed;

- *A market in renewable energy certificates.* Approved generation of renewable energy will create certificates. The certificate is the 'currency' for the purposes of the legislative scheme and will equal 1 megawatt hour (MWh) of electricity generated by an accredited power station and available at the relevant measurement point (to be prescribed in regulation). Certificates will be electronic and will be traceable to the point of origin by the unique identification code allocated to each certificate. Each individual power station will, on accreditation, be given its own 1997 eligible renewable power baseline and separate identification code. Power stations will have to produce more than their 1997 baseline level in order to be eligible to produce renewable energy certificates. Baselines for new power stations may be nil;[14]

- *Wholesale purchaser targets and shortfall charge.* The extra renewable power liable entities will be required to purchase, in the form of certificates, is set out in Section 39 and will be updated each year in regulations (to take account of projected demand). It will be known as the 'renewable power percentage' and will be calculated as a percentage of each year's purchases. If there is a shortfall liable entities will be required to pay a 'renewable energy shortfall charge' of $40 per MWh. The Bill allows some flexibility in this regard - the charge can be refunded if the shortfall is made up within three years, and is not payable if the shortfall is less than 10 per cent, the deficit being rolled into the following years obligation.[15]

- *Regulation and market rules.* The Bill also establishes a Renewable Energy Regulator to oversee the scheme, and establishes reporting requirements for liable parties to the regulator, while also establishing rules for the market in certificates.[16]

1.19 The Government states that the specific objectives of the renewable energy target are, by 2010:

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14 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, pp 2-3.

15 *The Renewable Energy (Electricity) Bill 2000*, Sections 35-9, 95-98.

16 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 1.

- to accelerate the uptake of renewable energy in grid-based applications, so as to reduce greenhouse gas emissions;
- as part of the broader strategic package to stimulate renewables, provide an on-going base for the development of commercially competitive renewable energy; and
- to contribute to the development of internationally competitive industries which could participate effectively in the burgeoning Asian energy market.[17]

1.20 The Committee concurs with these objectives, but notes that the two key aims of the measure - stimulating the renewable energy industry and reducing greenhouse emissions from energy generation - have at times appeared to be in tension. While these objectives are broadly complementary, they are not identical. The measure will only make a small impact on electricity sector emissions, in the order of a reduction of 4 to 5.5 Mt CO_2 in 2010.[18] This compares with the 39.5 Mt increase between 1990 and 1998, and the 15.9 Mt increase in 1997-98 alone.[19] It is suggested by many players in the energy industry that only a policy which prices carbon emissions, such as emissions trading, will make a substantive impact on Australia's energy emissions. Thus the measure's objective of industry development would appear to be more important and, in the Committee's view, ought to be seen as a first step towards removing fossil fuels from Australia's energy profile during the coming century.

17 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 7.

18 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 20.

19 National Greenhouse Inventory Committee, *National Greenhouse Gas Inventory Analysis of Trends 1990-1997* (Canberra: Australian Greenhouse Office, 1999), p 34; Australian Greenhouse Office, *National Greenhouse Gas Inventory 1998* (Canberra: Australian Greenhouse Office, 2000), p A-9.

THE ISSUES

1.21 A majority of the submissions received by the Committee were enthusiastic about the measure and wished the legislation to proceed in one form or another. Many did suggest amendments to the Bills, but stressed that they should not be allowed to substantially delay the measure's implementation.[20] The Committee did, however receive a number of submissions from large industrial users of electricity who were highly critical of the legislation.

1.22 Key concerns in submissions and evidence were that:

- The measure is a high cost approach to greenhouse emissions abatement, and might be onerous for industrial and domestic consumers of electricity, or undermine their competitive position. Submissions of this nature argued that the cap on the costs of the measure (through the level of the shortfall charge and other flexibility mechanisms) should be maintained or even extended;
- The two incremental paths set out in Section 40 of the Bill for liable parties to increase their renewable energy purchases may not provide enough stimulus to the renewable energy industry and could undermine the objectives of the legislation;
- The inclusion of the definition of eligible renewable energy sources in regulations was inappropriate and needed to be available for parliamentary scrutiny by being listed in the legislation;
- The proposed definition of eligible renewable energy sources was considered too wide, and may encourage unsustainable forestry or farming practices. Of particular concern was the inclusion of non-plantation native forest logging waste as allowable biomass fuel;
- The rules relating to the renewable energy shortfall charge could undermine its effectiveness as an incentive for compliance. In particular, it may be tax deductible, that the level of the charge may be too low, and that the provision for it to be refunded if the shortfall was made up in three years was too lenient;
- That the renewable energy shortfall charge should be clearly designated as a penalty and increase in line with the CPI;
- That the 9500 GWh target, while being 2 per cent of projected 2010 electricty consumption, would in fact be a much lower percentage figure of actual consumption in 2010, if electricity consumption increases at a faster rate as projected by the Electricity Supply Association.

20 For example, see Sustainable Energy Industry Association, Submission 16, p 1.

- The clauses which exclude self-generators could create anomalies where self-generators who buy an energy service from a grid-connected utility could be liable entities;
- The measure may not create adequate incentives for the industry development and takeup of currently more expensive sources of renewable energy, such as wind or solar photovoltaics, which are of great long-term importance to the restructuring of the energy economy;
- The measure makes no distinction between sources (e.g. wind and biomass burning) on the basis of environmental sustainability or the short-term level of emissions. Thus while biomass is considered renewable because the emissions from its burning will be eventually neutralised by regrowth, sources such as wind and solar are guaranteed zero emissions energy;
- The provision to create a public register of companies which do not comply was considered by some to be unfair and could breach commercial confidentiality;
- The bills may disadvantage exporting industries;
- Some parties, due to the complexity of some purchasing arrangements for the supply of energy, may be liable twice for the same block of renewable energy;
- There is no legislative provision for a review of the scheme's effectiveness, operations and objectives.

Eligible Renewable Energy Sources - Debate and Concerns

1.23 Division 3 of the Bill sets out the conditions under which eligible power stations (ie. approved sources of renewable electricity) will be accredited. Renewable energy generators must apply for accreditation to the Regulator, who determines whether the power station is eligible, which generation sources from its mix will be eligible, and determines the power station's '1997 eligible renewable energy baseline'. Crucial to this approval will be the Government's definition of the 'eligible renewable energy source'.[21]

1.24 Under Section 17 of the Bill it is proposed that 'eligible renewable energy sources' will be specified in regulations, which are most likely to be published after the passage of the legislation. Notwithstanding the administrative complexity involved in specifying guidelines, it was of some concern to many witnesses that such a crucial element of the scheme would not be available for parliamentary scrutiny.

1.25 Section 17 reads:

21 *The Renewable Energy (Electricity) Bill 2000*, Sections 13-17.

> The regulations must specify the renewable energy sources that are ***eligible renewable energy source***s. Fossil fuels and waste products derived from fossil fuels are not to be prescribed as eligible renewable energy sources.[22]

1.26 A fact sheet published by the Australian Greenhouse Office (AGO) on the measure states the technologies/sources that will be eligible under the measure, will include:

- solar;
- wind;
- ocean, wave and tidal;
- hydro;
- geothermal;
- biofuels (landfill gas, biogas, biomass);
- specified waste;
  - biomass by-products of agricultural crops but excluding broad-scale land-clearing for agricultural purposes;
  - biomass by-products of sustainably managed forestry operations;
  - biomass by-products of food processing and production industries;
  - sewage treatment;
  - biomass component of mixed municipal wastes;
  - other biomass wastes as approved by the regulator;
- solar water heating;
- pump storage hydro;
- Renewable Stand Alone Power Supply (RAPS) systems;
- co-firing renewables with fossil fuels; and
- fuel cells using a renewable fuel.[23]

1.27 The fact sheet further stated that:

> As appropriate, developments or projects will be subject to local environmental requirements/regulation. Where electricity is produced from a combination of renewable and fossil-fuel energy, the fossil fuel contribution will be netted out. Solar water heaters can be included where the installation leads to a positive greenhouse gas benefit and where the

22 *The Renewable Energy (Electricity) Bill 2000*, p 11.

23 Australian Greenhouse Office, *Fact Sheet: 2%: A boost for the renewable energy industry: A positive greenhouse outcome*. http://www.greenhouse.gov.au/ markets/2percent_ren/fs_boost.html

> fossil fuel contribution is netted out. Fossil fuel electricity consumption in pump storage hydro will be netted out. [24]

1.28 In line with the indications in Section 17 of the Bill, the fact sheet also states that:

> Fossil fuels and fossil-fuel derived waste products will not be eligible under this measure, including:
>
> - coal seam methane, waste coal mine gas and other coal or natural gas based products;
> - waste heat from cogeneration;
> - electricity production from cogeneration based on fossil fuels;
> - non-biomass component of co-firing or wastes.[25]

1.29 The AGO has stated that the fact sheet provides a reliable guide as to the sources that will be named as eligible in the regulations.[26]

Environmental principles and eligibility

1.30 The Sustainable Energy Industry Association (SEIA) argues that, given that the regulations will set eligibility guidelines for renewable energy sources, that 'it is important that these regulations take account of community expectations in this area. SEIA recommends that a comprehensive community participation and consultation process be pursued as a basis for the preparation of eligibility criteria that incorporate best practice environmental requirements'.[27]

1.31 As a general principle in determining the eligibility of renewable energy sources, Greenpeace recommended that:

> The question of eligibility be readdressed because as it currently stands the Bill will allow the inclusion of energy sources that have negative environmental impacts. Greenpeace recommends that an approach be taken that adequately assesses the total environmental impact of energy sources, not just their greenhouse impact.
>
> Rather than simply listing eligible sources there should be a clear criterion for eligibility that takes into account the upstream and downstream impacts of energy sources. For example, yields of crops produced in ways that

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24 Australian Greenhouse Office, *Fact Sheet: 2%: A boost for the renewable energy industry: A positive greenhouse outcome*. http://www.greenhouse.gov.au/ markets/2percent_ren/fs_boost.html

25 Australian Greenhouse Office, *Fact Sheet: 2%: A boost for the renewable energy industry: A positive greenhouse outcome*. http://www.greenhouse.gov.au/ markets/2percent_ren/fs_boost.html

26 Ms Karla Wass, *Proof Committee Hansard*, 14 July 2000, p 203.

27 SEIA, Submission 16, pp 3-4.

> deplete the soil are not sustainable (upstream) and biomass combustion that releases dioxins into the environment is not sustainable (downstream).[28]

Native forest waste

1.32 A number of submissions raised concerns relating to the forms of biomass wastes that would be made eligible, and in particular, of the effect that the possible inclusion of waste from old growth or non-plantation native forests could have on those areas. Under the fact sheet's wording, which permits 'biomass by-products of sustainably managed forestry operations', native or old growth forest material could be eligible. The AGO has confirmed this will be the case, and that the criteria applied by the regulator in determining approved forest biomass will be that it is covered by a Regional Forest Agreement or, if not covered, that relevant state and territory approvals are in place.[29]

1.33 Greenpeace opposed the inclusion of biomass from the logging of native forests, whether or not they were covered by an RFA:

> Greenpeace recommends that the use of material from native forests as an energy source under the measure be specifically excluded because of the negative impacts that logging of native forests has on biodiversity. Greenpeace does not regard energy sources that utilise material from native forests as renewable.[30]

1.34 The Australian Conservation Foundation also opposed the eligibility of native forest wastes. Its concerns are that logging threatens biodiversity, citing Macquarie Generation's use of wood waste from the Pilliga Wilderness, which 'is a well known Koala habitat'. They strongly assert that the 'burning of biodiversity is *not renewable*'. They also suggest that 'state forest agencies are investigating the feasibility of constructing generators closer to forest sources which could dramatically alter the economics of using native forests for energy production'. In this regard they express concern that the co-firing of woodchips may become economic and that the 2 per cent measure could create a further incentive:

> Up to 400,000 tonnes of wood chips could be needed to supply the existing 5% co-firing licenses at Lidell and Bayswater Power stations. This figure is a *doubling* of the current wood chip harvest in NSW.
>
> Nationally, according to the Centre for Environment Studies at the University of Tasmania, to meet 50% of the renewables target with native wood forest products, would require a *doubling* of Australia's wood chip harvest from 3 million tonnes to 6 million tonnes. (Burning on this scale is unlikely due to current cost constraints but the value of wood chips is declining).

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28 Greenpeace, Submission 12, p 7.

29 Australian Greenhouse Office, Submission 5, p 8.

30 Greenpeace, Submission 12, p 7.

> According to the Government commissioned Beck report, co-firing potential at low cost, with 10% of stations with capacity, could contribute 2,440 GWh or 25% of the target.[31]

1.35 The National Association of Forest Industries Ltd (NAFI) argued in its submission that the level of sustainable yield of production forests is not elastic:

> It is not possible for the government agencies which manage the public forests to increase harvesting rates above sustainable yield to meet a new demand, from whatever source that demand might arise.[32]

1.36 Under the NSW Government's *Green Power* scheme, administered by the Sustainable Energy development Authority (SEDA), logging waste from non-plantation native forests (including those covered by RFAs) is generally not eligible. SEDA guidelines state that:

> Utilisation of waste derived from sustainably harvested plantation forests is generally acceptable under Green Power. These wastes should not be sourced from plantations that clear, or have cleared after 1990, existing old growth or native forests.[33]
>
> …
>
> Utilisation of waste products from regrowth native forests for Green Power is a sensitive issue. Generally, these applications are very site specific, and would need to be considered on that basis. It is recommended that retailers seek the views of environmental advocacy groups in the establishment of projects using these resources. Demonstration of best-practice saw-milling technologies and the like would assist in the approval of generators based on these resources.
>
> Utilisation of any materials (including wastes) from high conservation value forests such as old growth forests are not acceptable under Green Power.[34]

1.37 The AGO has stated that the benchmark used by the Regulator in determining whether native forest biomass is a by-product of a sustainably managed operation will be, in the first instance, that the logging activity has approval under a Regional Forest Agreement (RFA). Given the detailed assessments developed during the RFA processes, the AGO argues that:

> In combination, these processes ensure that the RFAs provide for sustainable forest management. Any forest products sourced from an RFA

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31 Australian Conservation Foundation, Submission 9, pp 2-3.

32 National Association of Forest Industries, Submission 17.

33 Sustainable Energy Development Authority, *Green Power Briefing: Greenpower and Wood Wastes*, p 1.

34 Sustainable Energy Development Authority, *National Green Power Accreditation Program: Accreditation Document*, Version 1, January 2000, Appendix A, p 14.

> region, for example wood for energy production, can be considered to be from an ecologically sustainable, or renewable resource.[35]

1.38 However the AGO admits that areas of native forest which are subject to logging, in South West Queensland and Southern New South Wales, are not covered by RFAs. Biomass from these areas will be eligible renewable energy sources. The criteria which will be applied by the Regulator, says the AGO, are that 'all relevant approvals – Commonwealth, State or local – must be obtained for accreditation under this measure':

> The Regulator for this measure will have no independent expertise in forestry policy issues, nor will it have resources to devote to such matters. In all cases, not just for forestry biomass, the existence of all relevant approvals will be taken as evidence that a project is judged fit to proceed from the point of view of ecological sustainability. This of course implies that as the standards applied to project approvals evolve over time in different jurisdictions, so too will the requirements for accreditation under this measure.[36]

1.39 The Committee is particularly concerned at the inclusion of waste and other products from non-plantation native forests being eligible as renewable sources, and is concerned that changes in the economics of using forest biomass (through installation of on-site generators or a further fall in woodchip export prices) could increase pressure on native forest resources. The committee rejects the view that 'relevant approvals' outside the RFA process would be an adequate safeguard that native forests are being logged sustainably and that biodiversity conservation values would be preserved.The Committee rejects thje view that 'relevant approvals' outside the RFA process would be an adequate safeguard that native forests are being logged sustainably and that biodiversity conservation values bwould be preserved.

1.40 The Committee also agrees with witnesses such as Greenpeace and SEIA that broader environmental impact criteria (such as biodiversity) should influence decisions about eligible sources under the 2 per cent measure. It is inadequate to rely on RFA assessments in this regard, because they have not taken account of the possibility of the increased utilisation of native forest wood products or wastes in power generation. The SEDA guideliens emphasise the sensitivity of this issue and avoid reliance on blanket approvals as a guide to eligibility.

1.41 The Committee also notes that RFAs permit the logging of old growth forest, which would mean that biomass from old growth forests would also be permissible under the 2 per cent measure. In contrast, SEDA specifically excludes biomass from old growth forest from eligibility for the Greenpower scheme.

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35 Australian Greenhouse Office, Submission 5, p 8.

36 Australian Greenhouse Office, Submission 5, p 8.

1.42 The Committee also rejects the RFA list as a valid criterion for judging whether biodiversity values would be infringed by the use of native forest biomass for renewable electricity. For these reasons, the Committee recommends the exclusion of native forest wood products and wastes from the list of eligible renewable energy sources.

Recommendation 1

The Committee recommends that non-plantation native forest wood products and wood wastes be specifically excluded from the list of eligible renewable energy sources.

Regulations and Public Scrutiny

1.43 The Renewable Energy Generators of Australia (REGA) expressed concern in its submission that so much of the detail of how the legislation would be implemented was being left to regulations which could only be drafted after the passage of the Bills:

> REGA is disappointed that much of the detail of the measure, particularly in relation to eligible renewable energy sources and eligible renewable power baselines, has been left to the regulations. Given that our opportunity to comment on these matters is severely limited, we stress the importance of ensuring that the regulations are consistent with the Cabinet decisions made in November 1999.[37]

1.44 REGA's chairman, the Hon. Peter Rae stressed the point in his evidence to the Committee:

> It is a matter of some concern that so much is to be in the regulations and so much of the effectiveness of this will depend on what is in the regulations… …we would like to think that the drafting of the regulations is a consultative process.[38]

1.45 The Government of Western Australia shared that view, expressing concern that:

> significant parts of the Bill have been left to be prescribed by regulation

and requesting that it be given:

37 Renewable Energy Generators of Australia, Submission 6, p 6.

38 The Hon. Peter Rae, *Proof Committee Hansard*, 13 July 2000, p 89.

> an opportunity to consult with Commonwealth officers on the Bills once the regulations have been drafted and prior to them being made available to the public.[39]

1.46 That concern was echoed by other witnesses including the Electricity Supply Association of Australia (ESAA),[40] and the President and Director of the Australian Wind Energy Association.[41]

1.47 The Committee is persuaded by the arguments put forward to it that a degree of certainty as to which sources of renewable energy would be "eligible" is very important. Accordingly, it recommends that the *Renewable Energy (Electricity) Bill 2000* be amended to include a list of eligible renewable energy sources.

Recommendation 2

The Committee recommends that the Renewable Energy (Electricity) Bill 2000 be amended to include the list of eligible renewable energy sources, with the provision for more detailed rules and definitions to be included in the regulations.

A Portfolio Approach?

1.48 Some witnesses and submissions argued for the measure to include a specified portfolio of renewable sources to ensure their takeup and development. A common concern was that biomass would meet up to 70 per cent of generation under the target. A variety of proposals were submitted in this regard:

- The Australian Conservation Foundation recommended the inclusion of a 30 per cent wind portfolio, which they costed at between $76 and $176 million;[42]

- Greenpeace supported a general portfolio approach, with the aim of supporting the takeup and development of wind and solar photovoltaics, which they argued were 'the two industries that are most likely to develop export markets'.[43]

- The Sustainable Energy Industry Association recommended that the contribution of any single energy source be limited to 50 per cent of the final target (4750

39 Western Australia, Ministry of the Premier and Cabinet, Submission No.26, p.3

40 Dr Harry Schaap, *Proof Committee Hansard*, 14 July 2000, p 159.

41 Mr Grant Flynn, *Proof Committee Hansard*, 14 July 2000, p 186.

42 Australian Conservation Foundation, Submission 9, p 3; *Proof Committee Hansard*, 13 July 2000, p 28.

43 Mr Shane Rattenbury, *Proof Committee Hansard*, 13 July 2000, p 60.

GWh), and that a more comprehensive portfolio approach be considered in future reviews;[44]

- The Australian Wind Energy Association recommended a change in the value of certificates between more and less greenhouse intensive emissions sources. Thus wind, hydro and solar could receive two certificates per MWh while others still receive one;[45]

- The Australia and New Zealand Energy Society supported efforts to promote better technologies, such as wind and solar, but worried that a portfolio approach may be too prescriptive or focus on technologies that could not deliver results. However they were very supportive of the SEIA proposal to cap the contribution of any one source;[46]

1.49 The Stanwell Corporation opposed the portfolio approach, feeling that a higher penalty price ($100 MWh) could achieve a similar outcome while allowing the market to drive the precise mix and proportion of technologies.[47] The Australian Industry Greenhouse Network were both opposed to an increase in the shortfall charge, and strongly opposed to a portfolio of sources because it would increase the costs of the measure.[48]

1.50 The Australian Cogeneration Association, while supportive of the development of a wide range of sources, opposed a portfolio approach as adding unnecessary complexity to the operation of the market in certificates. They suggested that support for particular technologies should be more direct, as with the Government's 50 per cent rebate on the household installation of solar photovoltaic systems.[49]

1.51 The Electricity Supply Association told the Committee that they:

> initially supported a portfolio based approach on a fixed levy of around one per cent of electricity prices. Such an approach would guarantee a mix of renewable electricity based energy, including more costly options such as photovoltaics, but this would not have guaranteed a required generation level. With a focus on 9,500 gigawatt hours by 2010 and a cap of $40 per megawatt hour, a portfolio approach is now considered to be inappropriate.'[50]

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44 SEIA, Submission 16, p 2.

45 Australian Wind Energy Association, Submission 3, p 2.

46 Dr Keith Lovegrove, *Proof Committee Hansard*, 14 July 2000, p 143.

47 *Proof Committee Hansard*, 13 July 2000, p 7.

48 *Proof Committee Hansard*, 14 July 2000, p 145.

49 Mr Ric Brazzale, *Proof Committee Hansard*, 14 July 2000, p 156.

50 Mr Harry Schaap, *Proof Committee Hansard*, 14 July 2000, p 159.

1.52 The Australian Greenhouse explained why the Government did not consider a portfolio approach to be appropriate:

> It is our view that proposals for a cap or a portfolio approach in which we would predetermine the technological composition should be rejected … We would argue that no-one would have the skills to accurately project the technology and fuel composition of this measure 10 or 20 years in advance. We have modelled various forms of portfolios: for example, mandating 10 per cent PV or 10 per cent wind. It is quite clear that they would be expected to substantially increase the costs of complying with this measure. Similar points would apply to suggestions that we should rank or rate technologies or fuels with respect to renewables or something else.[51]

1.53 The Explanatory Memorandum to the Bill argued that:

> Analysis of the likely cost impacts of including a small portfolio component in the 2% target has shown that even a 10% solar photovoltaic (PV) and solar thermal electric portfolio increases the energy costs of the measure by 53% and the investment costs by 138%. Expected levels of Australian content rise if a PV portfolio is included as Australia, for the last 20 years, has been at the leading edge of R&D in this field with the two PV manufactures in Australia supplying 7% of world shipments of PV.
>
> Depending on how the portfolio was specified, there is the potential that greater levels of greenhouse gas abatement could occur, as some renewable sources produce no emissions (not including life cycle analysis). However, pursuing a portfolio would involve added complexity and increase administrative costs.
>
> Allowing for some technologies to produce higher value certificates could reduce the overall level of renewable energy achieved through this approach, the extent of which would depend on the volume of 'high value' certificates being traded. It may be possible to have lower value certificates for some renewables, which could balance the overall result (through reducing the impact of the higher value certificates) to some extent.[52]

1.54 The Committee acknowledges that there is a diversity of views about whether a portfolio approach is advisable and what specific form it should take. It would seem obvious that the objectives of the 2 per cent measure would not be served by the undue dominance of any one source, and so the SEIA proposal is attractive. It is also important that wind power, because of its zero emissions and future potential importance, be given adequate stimulation. Over the longer term it would be to Australia's advantage to ensure that solar photovoltaics grow and develop new markets. On the other hand, the Committee notes the difficulties of specifying percentages for particular sources and thus limiting the free operation of the market.

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51 Mr Philip Harrington, *Proof Committee Hansard*, 14 July 2000, p 184.

52 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, pp 25-26.

1.55 Hydro Tasmania suggests that amendment of the Bill to ensure a linear phasing path will create the necessary threshold of demand for an Australian wind manufacturing industry to become established. The Committee has recommended that the Bill be amended to introduce a linear phasing path. If this amendment is made, the Committee feels that consideration of a specified portfolio of sources, or a cap on sources, can be deferred to future reviews of the measure. The Committee recommends that future reviews give serious consideration to the implementation of portfolio-style approaches if the 2 per cent measure is less than effective in encouraging the takeup and development of wind and solar.

Recommendation 3

The Committee recommends that future reviews of the 2 per cent measure give consideration to mandating a portfolio of sources, a cap on the contribution of any one source and/or a measure, which recognises the greenhouse intensities of particular sources.

Penalties and Compliance

1.56 Submissions were broadly supportive of the presence of the shortfall charge as a compliance mechanism, although there was some disagreement as to its objectives, cost and effectiveness. Some sections of industry felt that the charge, at $40 MWh, was too high, while other witnesses felt it was too low and would not assist the industry development or takeup of higher cost sources such as wind or solar photovoltaics. Concerns were also expressed about the effect of flexibility mechanisms built into the legislation that will allow, for example, the charge to be refunded if the shortfall is made up within three years.

1.57 The committee notes that the AGO recommended a penalty level of $100 / MWh in the Regulation Impact Statement included in the legislation explanatory memorandum.

1.58 The Committee notes that there is an uncomfortable tension between the objectives of the charge as, on the one hand, a cap on the cost of the scheme and, on the other, as an incentive for compliance. The AGO stated that:

> The second objective of the penalty, or certificate charge, is to limit the exposure of liable parties to much higher than expected or projected costs under this measure. It has been noted by several parties, including those involved in the work, I should stress, that the $40 figure was a carefully modelled outcome, in particular modelled by a number of parties but including McLennan, Magasanik and Associates.[53]

53 Mr Phillip Harrington, *Proof Committee Hansard*, 14 July 2000, p 178.

1.59 Some industry groups called on the Senate not to be swayed by arguments put forward that advocated an increase in the $40MWh charge.[54] The Australian Industry Greenhouse Network felt that the cap was possibly too high, and advocated a figure of $20MWh. However they welcomed the charge as a cap on the potential costs of the measure to electricity-dependent industries:

> The AIGN acknowledges that our concerns have at least been partly met by government decisions that were taken in November 1999 to cap the cost of the measure by imposing a fixed shortfall charge to set the level of renewable energy to be provided at 9,500 gigawatt hours…the provision of some flexibility in terms of allowing up to 10 per cent of an entity's liability to be carried forward and for a refund of the shortfall charge to be made if the shortfall is made up within three years would also be of help.[55]

1.60 A common concern among witnesses was that the charge would be inadequate to encourage the takeup of higher cost renewables, and would encourage retailers to purchase the vast bulk of their supply from sources such as biomass and bagasse, which produce greenhouse gases and other pollutants and are of less value to the long term goal of developing energy technologies which could be the basis of a sustainable low emissions economy. Specific concerns in this regard were that:

- the charge was not clearly designated in the Bill as a penalty and may thus be tax deductible, reducing its impact;
- the charge would decline in value with inflation, thus reducing its impact;
- the charge is set at too low a level, and should be increased to a value well over $40 MWh.

1.61 The Explanatory Memorandum to the Bills shows a table of the potential generation costs of various renewable energy technologies (reproduced below as Figure 1). It shows that the least expensive options are solar hot water ($51.50 MWh), Bagasse cogeneration ($60 MWh), Landfill and Sewage Gas ($72-75 MWh), Hydro ($70-80 MWh), and Wood Waste ($90 MWh). Key long-term technologies are much more expensive: Wind is $100 MWh and solar photovoltaics at $475.[56]

54 Australian Industry Group, Submission No.23, Australian Aluminium Council, Submission 29, p 6.

55 Mr John Eyles, *Proof Committee Hansard*, 14 July 2000, p 145.

56 Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 19.

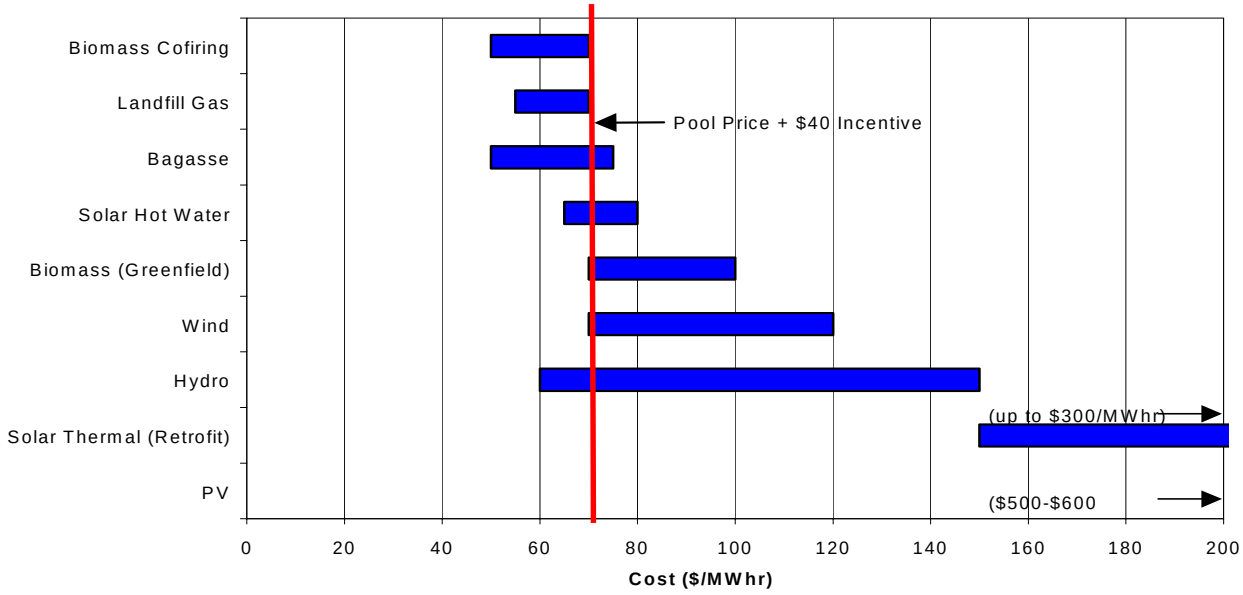
Figure 1: Potential Generation Costs of Renewable Energy Technology[57]

Renewable Energy Source	Projected Average Generation Cost $/MWh – Year 2000
Hydro (large)	80
Hydro (small)	70
Wind	100
Solar PV (grid connected)	400
Solar thermal	215
Bagasse cogeneration	60
Black liquor	105
Wood waste	90
Energy crops	140
Crop waste	140
Food and Agricultural wet waste	115
Landfill gas	72.5
MSW Combustion	115
Sewage gas	75
Geothermal – aquifer	105
Tidal	115
PV and PV Hybrid RAPS	475
Wind and wind-hybrid RAPS	275
Micro hydro RAPS	160
Solar hot water	51.5

57 Source: Combined Explanatory Memorandum, *Renewable Energy (Electricity) Bill 2000/Renewable Energy (Electricity) (Charge) Bill 2000*, p 19.

1.62 Pacific Power presented a graph of the potential costs of various renewable sources in relation to the cost threshold of the shortfall charge plus the pool price. It is reproduced below as Figure 2.

Figure 2: Pacific Power's Assessment Of Renewable Energy Costs



Tax deductibility of the shortfall charge

1.63 Some submissions pointed out that if the charge were not tax-deductible, it would effectively be approximately $57MWh. The Australian Aluminium Council for example, called for the charge to be tax deductible and opposed calls for it to be indexed to the CPI.[58]

1.64 If a liable party chooses to pay the shortfall charge, they would also have to buy the equivalent amount of electricity from the pool. The Committee is aware that added to the pool price of electricity of between $25-$40MWh, the higher cost associated with a non tax-deductible charge could encourage liable entities to take up lower cost sources (and perhaps some proportion of higher cost sources). However if the charge were tax deductible this would keep it at $40MWh, and that figure would tend to decline with inflation to $30 in 2010 and $20 in 2020 (assuming 3 per cent inflation). At $40 the charge would effectively mean that it is more cost effective to pay the charge than purchase certificates at any price over $65-70MWh.[59]

58 Australian Aluminium Council, Submission 29, p 6.

59 Greenpower Services, Submission 15, pp 1-2.

1.65 AGO stated that they had intended that the charge not be tax deductible, but admitted that the Bill appeared to leave this in some doubt:

> It has been the clear intent, in our view, that the measure would not be tax deductible, hence its conception and reference in the formative work—in the working group report, for example—as a penalty. However, it is the case that the most recent legal advice that we have suggests that there could be some uncertainty with respect to that point. Therefore, that is a matter that may require some clarification should the government wish to put that matter beyond doubt.[60]

1.66 REGA told the Committee that it had legal advice from Clayton Utz that the shortfall charge will be tax deductible.[61]

1.67 A range of submitters, including Greenpower Services, Pacific Power, Australian Cogeneration Association (ACA), AWEA and Pacific Hydro recommended that the charge *not* be tax-deductible. In addition Greenpower Services, SEIA, Pacific Power, Greenpeace, REGA, Hydro Tasmania, ANZES, ACA and Pacific Hydro all recommended that the charge be indexed to the CPI, or at least regularly increased in line with it. The Committee supports both these views.

Recommendation 4

The Committee recommends that the legislation be amended to ensure that the shortfall charge is recognised as being a penalty, that it should clearly not be tax deductible and that it be indexed for CPI increases.

The level of the shortfall charge

1.68 A significant number of submissions argued that the quantitative amount of the charge be increased to take it to a level at which slightly higher cost renewables such as wind could be taken up, and to reduce the attractiveness to retailers of simply paying the charge. A $40/GWh penalty is likely to mean that wind energy will only be viable from the windiest sites and experience overseas has shown that these are also often the sites which are most sensitive for environmental and aesthetic reasons and that public opposition becomes widespread.

1.69 The possibility that wholesalers would choose to pay the penalty rather than buy renewable certificates was of significant concern to the Australia Institute. Its Executive Director Dr Clive Hamilton argued that:

> At present, a $40 penalty has been fixed at around about the expected level of the price of the renewable energy certificates; in other words, the

60 Mr Phillip Harrington, *Proof Committee Hansard*, 14 July 2000, p 178.

61 REGA, Submission 6a, P 6.

> premium, the difference, between the price of coal fired electricity and the marginal price of renewables. Liable entities…are being invited, by setting the price at that level, to operate at the margin. They will make profit maximising decisions at the margin, and they may well choose to pay the penalty if the cost of certificates edges above $40. In fact, the Australian Greenhouse Office's latest analysis by McLennan Magasanik Associates has a base price estimate for certificates of $55. But if you take account of the extra benefits from reduced transmission costs and other locational benefits of renewables, it brings the price down to their estimate of $45—still above the $40 penalty.[62]

1.70 The Queensland electricity generator, the Stanwell Corporation told the Committee that this was indeed a possibility:

> The sort of research that we are getting from the retail market at this stage seems to indicate—and we obviously interact with all the retailers throughout the national electricity market—that at a $40 price there does seem to be some willingness of parties to prefer to pay the penalty than actually go out and absorb marginal technologies. That is at chief trader level; whether a board of directors can tolerate that I cannot guarantee. But certainly at the chief trader level, based on the pure economics, the charge is looking pretty good at this stage. That, to me, indicates that the policy has not got it quite right yet.[63]

1.71 The Electricity Supply Association supported retaining the charge at $40MWh, and in contrast to the arguments of other industry groups that it was too high, argued that most retailers would choose to source their required amounts of renewable energy at that level:

> I think there was the possibility that some will do that [choose to pay the charge] which is right—that is the provision in the Bill. The retailing membership of ESAA overwhelmingly believes that they will deliver this measure through the acquittal of renewable energy certificates and not through the payment of a shortfall charge… The attraction of the shortfall charge is that it gives them a three-year averaging period. So they may wish to pay a small amount of the shortfall charge in one year and redeem that in later years, depending on a whole range of market dynamics. That is the attraction to retailers, but I stress that electricity retailers, partly because their customers will demand this, will deliver this measure through the acquisition of new renewable energy and the acquittal of certificates.[64]

1.72 Dr Hamilton argued that there was a policy contradiction in the way the Bills deal with the charge:

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62 Dr Clive Hamilton, *Proof Committee Hansard*, 13 July 2000, p 37.

63 Mr Paul Simhauser, *Proof Committee Hansard*, 13 July 2000, p 70.

64 Dr Harry Schaap, *Proof Committee Hansard*, 14 July 2000, p 162.

> The penalty has been set as an economic incentive, not as a penalty for failing to abide by the law. Other polluters are not given the option of abiding by the law or paying the penalty. They are expected to abide by the law and they are punished if they fail to obey the law, whereas in this case we have the situation where the penalty has been set in order to give polluters an incentive to either abide by the law or pay the penalty. It is bizarre.[65]

1.73 As a result, he raised the option of setting the charge at a level at which no wholesaler could chose to pay it in lieu of buying certificates:

> The government needs to decide whether or not it is going to implement the Prime Minister's promise to achieve two per cent. If the government is serious, then it should set the penalties so that it acts as a deterrent to not meet that two per cent target, rather than setting a penalty which operates as a marginal purchasing decision, an inducement in the hope that two per cent might be achieved. The penalty should be set at $1,000. It should be a real penalty for not meeting the target. That way we can be sure there will be no revenue generated from the measure.[66]

1.74 Dr Hamilton later conceded that setting the charge at $100MWh would have the same outcome, while appearing less punitive.[67] The Committee heard a range of suggestions for the value of the charge: the ACF recommended $80, Greenpeace $100, Stanwell $100, and the Australian Wind Energy Association $100.

Recommendation 5

The Committee recognises that the penalty may not be adequate to encourage liable entities to purchase Renewable Energy Certificates rather than pay the penalty, and/or that it may not deliver a diverse range of technologies, and recommends that the Government consider increasing the penalty. Failing that, the Committee recommends that the behaviour of wholesalers be closely monitored to assess whether they are choosing to pay the charge in lieu of buying available certificates (i.e. for which generation capacity exists). Should this be the case, the level of the charge should be increased to a level at which higher cost renewables, such as wind, will be competitive.

Recommendation 6

The Committee recommends that the time available to liable parties to make up a certificate shortfall and have the charge refunded be reduced from 3 years to 1 year, and that the refund be discounted by 50 per cent for that year.

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65 Dr Clive Hamilton, *Proof Committee Hansard*, 13 July 2000, p 37.

66 Dr Clive Hamilton, *Proof Committee Hansard*, 13 July 2000, p 37.

67 *Proof Committee Hansard*, 13 July 2000, p 42.

The Path to 9500 GWh

1.75 The size of the target, and the path which the Bill directs in reaching it, was a universal area of discussion among submitters to this Inquiry. They identified it as crucial to the realisation of the major objective of the measure: the long term development of renewable energy sources, technologies, industries and export markets. While some submitters were satisfied with both the target and the path, there was a strong view put to the Committee, by a majority of submissions, that there were strong grounds for reviewing both.

The 'dual-linear' path - should it be changed?

1.76 The path required by liable entities in reaching the target is specified in Section 40 of the Bill. It is listed below.

Required GWh of renewable source electricity

Year	Required additional GWh
2001	400
2002	1100
2003	1800
2004	2600
2005	3400
2006	4500
2007	5600
2008	6800
2009	8100
2010 and later years	9500

1.77 The path specified is a 'dual-linear' path, of two differing slopes: shallower between 2001-2005 and slightly steeper in the laster years. The AGO describes the Government's rationale as follows:

> In designing the phasing path, the targets were set deliberately low in the first years of the scheme, giving industry time to adjust to the requirements of the measure. Concern has been expressed by some members of the renewable energy sector that the early interim target levels may be too low to stimulate investment in renewables in the early years of the scheme, due to the amount of capacity which has been installed post 1 January 1997. However, these low targets offer a range of benefits:
>
> - fluidity in the renewable energy certificate market:
>
> the availability of excess certificates in the early years will assist with the smooth establishment of the REC marketplace, avoiding the risk that inconstant supply of certificates drives the price of certificates towards the penalty cap;

- economic benefits:

> banking of certificates provides for the excess (and generally inexpensive) certificates generated in the early years of the measure to be used against later liabilities, lowering the overall cost of the measure;

- transitional benefits:

> the low targets in the early years provide an adjustment period for industry, as some liable parties will not have prior experience in sourcing electricity from renewables. Higher targets in early years, with fewer excess certificates, coupled with an inexperienced market, may result in higher certificate prices.[68]

1.78 A number of witnesses argued, contrary to the AGO's modelling and concerns, that there would be an oversupply of capacity for the first three years of the measure and that this ran the danger of nullifying the industry development objectives of the 2 per cent measure. Pacific Power, which is both a major coal-based generator and a significant investor in new renewable projects, told the Committee that 'the renewables that either have been built or are under development since 1997':

> significantly exceed the target in the early years … through to about 2004-05. This has two implications. In the early years, the price of renewable energy certificates will drop. If there is excess supply in the early years in any market, which we believe will be the case, that will result in the cost or the price of renewable energy certificates falling below the cost of them. That has severe implications on people's incentive for early action and in fact could significantly damage the renewable energy industry as it is starting to emerge out of this.
>
> …
>
> It is worth noting that we believe there is an enormous potential for renewable energy. There is no issue with supply. But there has to be appropriate economic incentives for people to invest and to invest long term. The project has to be bankable. You do not put up a wind farm for a two-year time frame, or even a five-year time frame. You put up a wind farm for 10 or 20 years. So, therefore, it is very important that these investments are given the appropriate economic signals.[69]

1.79 Pacific Power prepared a graph comparing this capacity with the targets, which is reproduced at Figure 3. They also supplied the Committee, in confidence, with a list of the projects upon which they had based those calculations. Adding the expected capacities of those projects together, they calculated that in 2001 there would be approximately 1300 GWh available in 2001, 2300 GWh in 2002 and 2700 GWh in 2003. This compares with the mandated interim targets of 400, 1100 and 1800 GWh

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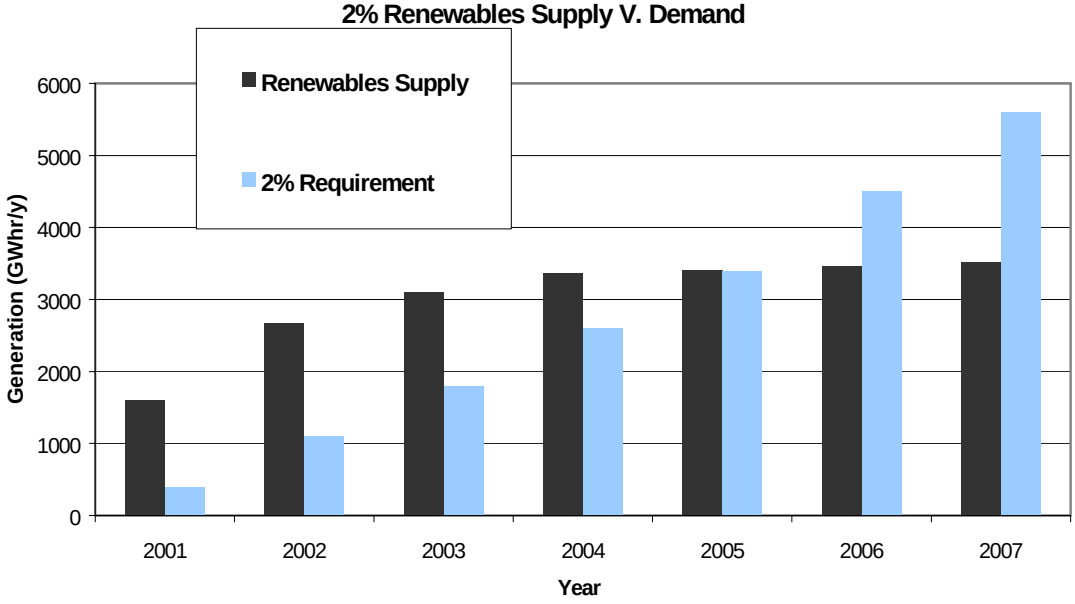
68 Australian Greenhouse Office, Submission 5, p 8.

69 Dr Robert Lang, *Proof Committee Hansard*, Canberra, 13 July 2000, p 48.

respectively. Their graph predicts sufficient capacity to meet the current targets until 2005.[70]

Figure 3: Pacific Power's Projection
2% Renewables Supply V. Demand



1.80 The Renewable Energy Generators of Australia (REGA) echoed this assessment of oversupply:

> By 2001 there will be eligible production of at least 570 GWh, which exceeds the initial, dual-linear target by 40 per cent. This figure does not include production above baseline from existing infrastructure.
>
> This investment and growth will allay the initial concerns by the Renewable Targets Working Group that the renewable energy industry would not be able to respond quickly enough to meet linear targets … REGA considers that linear targets are vital to ensure that this start up momentum is properly harnessed for continued and steady development of all aspects of this necessary renewable generation and the rapid establishment of a fully operational market.[71]

1.81 The Australian Cogeneration Association (ACA) contended that longer-term projects 'currently under evaluation or development that could be committed over the next year or so are sufficient to meet the interim target to 2006'.[72]

1.82 An assessment of early-years oversupply was supported by the Sustainable Energy Industry Association, which told the Committee that:

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70 Pacific Power, (Confidential) Submission 1a; Submission 1, Figure 1.

71 Renewable Energy Generators of Australia, Submission 6, p 2.

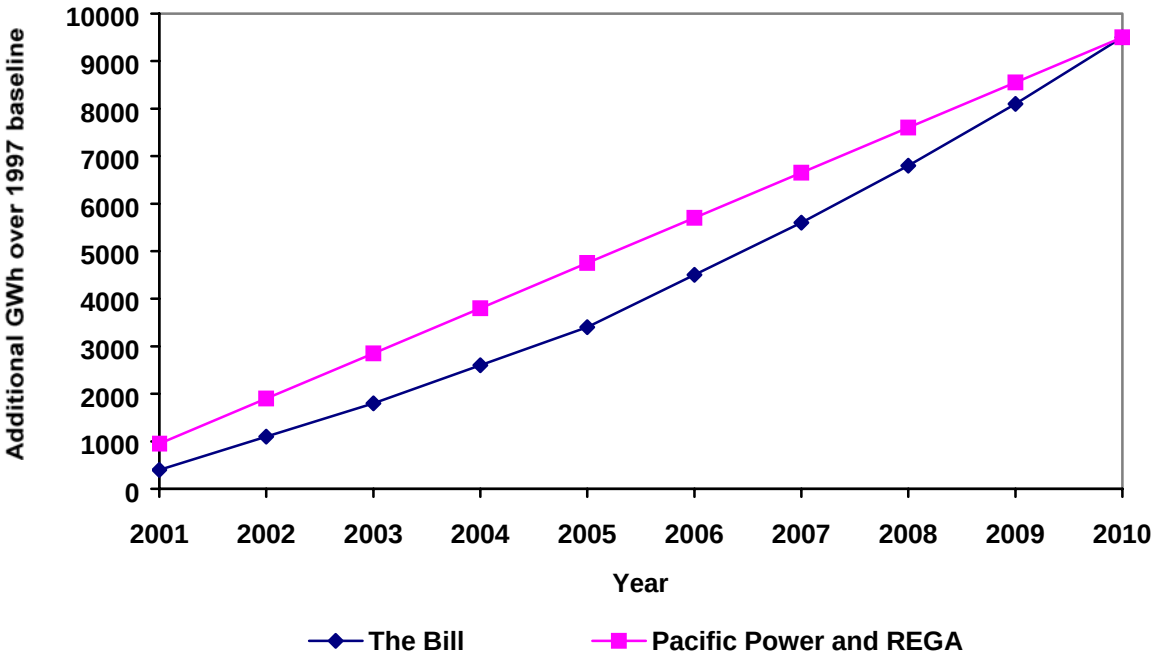
72 Australian Cogeneration Association, Submission 11, p 4.

> it does look as though several hundred gigawatt hours—say 300 gigawatt hours or something like that for year one—looks like it could be added to that 400 gigawatt hour target very safely … If I am looking at a 15 or 20 year project life, I can cope with one or two years where the prices are a bit strange or a bit lower than I might have expected, but I need to have confidence that for the remaining period of operation of the project I will be getting reasonable revenue streams … it is very important that we take on board that experience as quickly as possible to set targets that will lead to reasonable prices and reasonable stability in the market.[73]

1.83 In order to avoid this possibility and provide greater investor certainty, a large number of witnesses advocated abandoning the dual-linear path in favour of a simple linear path. Such a path, or the upward revision of early year targets, had the support of the Stanwell Corporation, SEIA, Pacific Power, Hydro Tasmania, The ACF, The REGA, the Australian Wind Energy Association (AusWEA), Pacific Hydro, and Greenpower Services. Most advocated a first year target of between 900 and 1000GWh, rising in a direct line to 9500GWh in 2010.

1.84 A graph comparing the linear path with the path mandated in the Bill is reproduced below as Figure 4.

Figure 4: Various proposals for required GWh of renewable source electricity[74]



1.85 The Stanwell Corporation, a company with a strong focus on developing renewables, argued that a linear path would be a key solution to the fear that higher

73 Mr Alan Pears, *Proof Committee Hansard*, Canberra, 13 July 2000, pp 5-6.

74 Renewable Energy Electricity Bill 2000, p 25; Renewable Energy Generators Australia, Submission 6, p 9 and Pacific Power, Submission 1, p 2.

cost sources like wind or solar would not be taken up under the measure. Its representatives argued that a linear path, in combination with a higher penalty price and an increased target, would have important public policy benefits:

> My feeling is that, by increasing the cap price, straightening the slope and those sorts of things that are trying to encourage or entice more activity, you will find that wind will be the clearing technology. Liable parties will not be inclined to pay the penalty because there will be economic options out there. It will open access to all players to come in … If that penalty is increased at a higher level it will enable smaller players, boutique players, to enter the marketplace. Otherwise you are likely to be dominated by the large-scale efficient players. From a public policy perspective, that is a positive.[75]

1.86 The Committee notes that the AGO has acknowledged the arguments of many witnesses that there is sufficient capacity to meet the targets specified in the Bill to 2004-2005. However the AGO insists on defending the lower trajectory on the basis that the ability to bank an early oversupply of certificates will lower the costs of the measure in later years.[76] At the same time it disregards the concerns of many industry players that such a reduced demand will remove the certainty that is necessary to provide security for long-term investment decisions. The Committee concurs with the arguments of many witnesses that the key objective of the measure ought to be industry and technology development rather than a deliberate attempt to cap the costs of the measure.

1.87 The Committee also concurs with the views of the Australia Institute that a stimulus to the renewable energy sector will cause the overall costs of the measure to fall, because increased production will create economies of scale which will drive unit costs down.[77] This suggests that a strong stimulus early on will in fact not be likely to substantially increase the overall costs of the measure, and will have longer-term cost benefits by reducing the cost of key renewable sources such as wind.

1.88 The Committee also notes that currently the banking provisions in the legislation create fears that higher cost renewables may not be adequately taken up in early years and will thus choke off planned investment which will be important for the measure's future success. However if a linear path was specified, the banking provisions, and the 10 per cent leeway given liable entities in meeting annual targets, would become beneficial - creating valuable flexibility for liable entities if capacity levels and certificate prices take some time to mature. This situation could also be considered in a review of the scheme after 3-5 years. The Committee supports abandoning the dual-linear path in favour of a simple linear phasing path.

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75 *Proof Committee Hansard*, 13 July 2000, p 77.

76 Australian Greenhouse Office, Submission 5, p 8.

77 *Proof Committee Hansard*, 13 July 2000, p 38.

Recommendation 7

The Committee recommends a regular linear phase-in path of at least 950 GWh each year.

The 9500 GWh target - should it be increased?

1.89 The target that has been specified in the Bill, of 9500 GWh p.a. by 2010, to be maintained until 2020, is calculated as being approximately 2 per cent of 1997 generation. However some submitters were concerned that growth in the consumption of electricity would see the value of the target reduced substantially by 2010 and 2020. Others made comments that the target was low by international standards, a view that was challenged by the AGO.

1.90 Some industry groups made a strong case for the 9500 GWh figure to be maintained (and "capped") for the duration of the measure. Among those were the Australian Industry Greenhouse Network (AIGN),[78] Alcoa of Australia Ltd[79] and the Australian Aluminium Council who argued that a quantitative cap was crucial to its industry because:

> Some certainty is required to enable the liable parties to manage the cost burden.[80]

1.91 Other witnesses argued the target was too low. The ACF argued that:

> Based on [Electricity Supply Association] energy consumption growth estimates, the 2% renewables target will actually be a 0% target by 2010. According to the ESAA energy consumption will expand 250TWh/a in 2010 (ref. Electricity Australia '99). 250TWh/a would require +14,600GWh/a of renewables in 2010, as opposed to the 9,500 GWh/a in the 2% bills. If these growth estimates are realised, Australia will be effectively treading the water - Australia's overall renewable generating capacity will still be 10.7%.[81]

1.92 The Australia Institute was also critical of the decision to cap the additional amount at 9500 GWh rather than maintain the target at 2 per cent of current generation in real terms:

> There is another aspect, which has been built into the legislation which also has the same effect [as the low level of the shortfall charge]: the cap, 9,500 gigawatt hours. This has been set in this way to give certainty to the

78 Australian Industry Greenhouse Network, Submission 27, p 4.

79 Alcoa of Australia Ltd, Submission 25, p 15.

80 Australian Aluminium Council, Submission 29, p 6.

81 Australian Conservation Foundation, Submission 9, p 2.

> electricity users. So if demand is high, it grows more quickly than expected, then do not worry: it will not be two per cent; it will be 9,500 gigawatt hours. Again, the environment bears the risk of mistaken estimates.[82]

1.93 The ACF also argued that: 'the 2% target is also well below international best practice: EU wide + 10% target, UK + 8% target, even US + 4%'. They told the Committee that Denmark has (voluntary) targets of 12% by 2005, 50% by 2030, and 100% by 2050'.[83]

1.94 Greenpeace included a table of the additional targets set by a range of other countries, ranging from Denmark's 20 per cent, Greece's 11.5 per cent, the EU's 8.2 per cent to 4 per cent for the US and 0.9 per cent for Japan. The average target was 7.4 per cent.[84]

1.95 The AGO commented that Australia was the only country, outside some states in the US, to have a mandatory target. It also argued that Australia was well ahead of many other countries in terms of the current uptake of renewables in its entire energy mix. Mr Phillip Harrington told the Committee that:

> The only mandatory target is in the United States where there is a target which is entirely voluntary at the national level. However, it can be picked up by individual states and mandated. To our information, six states have done so to date. The point that I would make is that the target is 7.5 per cent, whereas our target will lead to approximately 12.5 per cent share in 2010. Also, the cost in the US measure is limited to an equivalent of $22 per megawatt hour, unlike ours which is capped at $40.
>
> The UK does have a mandatory measure, but it is not a target per se…I believe that the share of renewable electricity at the moment in the UK is about one per cent. They have set a target of 10 per cent, but it is entirely voluntary. Ten per cent is still below the Australian target, which is mandatory. The EU has set an entirely voluntary target of 12 per cent, which is still below Australia's target. The Netherlands has a 10 per cent target, which is entirely voluntary. Denmark currently has a share of about 10 per cent in its electricity mix, which is still below Australia's target. It has set a target of 20 per cent but, again, it is entirely voluntary.[85]

1.96 The AGO stated that the intent of Australia's target was to lift Australia's share of renewable electricity from the current level of 10.7 per cent to 12.7 per cent, a level which compares favourably with other countries. They claimed that 'the target represents a 60 per cent increase in the current level of renewable electricity generation in this country in one decade'. However they did acknowledge the

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82 Dr Clive Hamilton, *Proof Committee Hansard*, 13 July 2000, p 37.

83 Australian Conservation Foundation, Submission 9, p 2.

84 Greenpeace, Submission 12, p 5.

85 *Proof Committee Hansard*, 14 July 2000, p 176.

concerns of many submitters that potential trends in generation volumes could undermine the value of the target:

> Of course, given the growth in the total electricity demand that has been projected over that period and, in the absence of this measure, very limited growth in the supply of renewable energy—not zero growth, but very limited; some would be pulled through by green power, for example—the share of renewable energy was projected not to stay at 10.7 per cent, but to fall by more than two percentage points within a decade. So in order to achieve a 12.7 per cent target equivalent over the next decade, you do not have to increase simply by two per cent, but by about 4.4 per cent. I think this was our most recent estimate. It is a very conservative increase.[86]

1.97 The Committee assumes this to mean that in the absence of these Bills the share of renewables in electricity generation would in fact have *fallen* by two per cent—that, in short, this measure is needed simply in order to stay still. It is, as the AGO says, a very conservative increase.

1.98 Given this context, the Committee shares the concern of many witnesses that the target's real value will be eroded by the raw increase in generation and also by the increased greenhouse intensity of non-renewable generation in Australia. The Committee feels that there is a strong prima facie case for the target to be revised upwards after 2010.

1.99 The ACF recommended that there be no fixed [i.e. numerical] cap on the level of additional renewable energy generation, and that the level of additional renewables should relate to the actual electricity sales in 2010. This would imply that the 2 per cent be maintained in real terms.[87] Greenpeace recommended that the target be increased to an additional 20 per cent of renewable energy by 2010, 'and that a timetable should be established for the measure to be progressively increased over the short to medium term with the overall goal of phasing out of fossil fuels'.[88]

1.100 The Australia Institute supported the upward revision of the cap, but also suggested that its retention as a numerical target was also preferable to provide some certainty:

> The appropriate approach to that may be to foreshadow a review in three years perhaps with a view to raising the cap to make sure it does reflect the actual growth in demand for electricity…The idea of a cap of a quantitative amount rather than a percentage makes sense for certainty purposes. We are going to hold a certain number of certificates in our hands. So to know there

86 *Proof Committee Hansard*, 14 July 2000, p 177.

87 Australian Conservation Foundation, Submission 9, p 2.

88 Greenpeace, Submission 12, p 2.

> are going to be 9,500, possibly going up to 10,000 or 10,500 later, is sharper. It is more compact.[89]

1.101 The Committee emphasises the importance, both environmental and economic, of reversing the trend in Australian energy generation towards more greenhouse-intensive fuel sources. This is crucial to our long-term abatement efforts, our ability to meeting existing and future international commitments, and to the goal of developing a low-emissions economy during the 21st Century.

1.102 The Committee believes that a significant first step will be to revise the 9500 target upwards in the years after 2010, with the aim of achieving a 2 per cent increase in renewable generation in real terms, and thence to steadily increasing that proportion. This could be set as a series of quantitative increments in the years 2010-2020 and possibly beyond. In order to guarantee certainty, it may be better to approximate the proportion of future generation as a quantitative amount, which should be set in place well in advance of the target year. This should be a priority in future reviews of the 2 per cent measure, which could track generation levels, along with the impact of other potential policies such as emissions trading on the takeup of renewables.

Recommendation 8

The Committee recommends consideration of possible upward revision of the target be included in future reviews of the 2 per cent renewables measure, with a view to establishing a world-class renewable energy industry and increasing the proportion of renewable generation in the years after 2010.

Self-generation

1.103 A number of submissions raised concerns about the way the Bills achieve the Government's stated objective of excluding self-generators from liability under the measure.

1.104 Concerns arose because of the way in which the exemption is very tightly defined, so that a wholesale purchaser is only exempt if they also generate the electricity, and either:

> a) the electricity is generated less than 1 kilometre from the point at which the electricity is used; or
>
> b) the electricity is transmitted or distributed between the point of generation and the point of use and the line on which the electricity is

89 Dr Clive Hamilton, *Proof Committee Hansard*, 13 July 2000, p 43.

> transmitted or distributed is used solely for the transmission or distribution of electricity between those 2 points.[90]

1.105 Industrial power users such as aluminium smelters and mines called for this definition to be relaxed, while the Committee was also presented with concerns that the definitions in the Bill would unwittingly make small scale cogeneration facilities liable.

1.106 Normandy Mining was concerned that it would be liable under the measure because it conducted self-generation through a variety of commercial arrangements in which it was not always the owner and operator of generation plant and transmission lines, but the plants generation was largely dedicated to its mining facility. In other cases its self-generation facilities were interconnected with the grid, either to ensure reliability of supply or the avoid the duplication of transmission infrastructure.[91]

1.107 Normandy recommended that the legislation be changed so as to give self-generator status to corporate groupings (including mining and power generation joint ventures) and power purchase agreements with third parties, in situations which exist for the generation of power for their own use. It also recommended that self-generation exemptions accommodate the use of grid transmission lines in electricity markets where bilateral supply contracts are in use.[92] Comalco, with similar concerns, also recommended that the exemption apply to 'related or affiliated corporations that have the same controlling or majority interest'.[93]

1.108 Alcoa and the Australian Aluminium Council made similar recommendations. They added that the Bill should be amended so as to exempt generation (which may or may not be owned by the end-user) directed power to more than one facility. They suggest that where self-generators activities may put them partly in an exempt and non-exempt class, a pro-rata obligation system could be used.[94]

1.109 The AGO explained that the definition of self-generation was designed to prevent liable parties using innovative ownership arrangements to escape liability:

> In considering a self-generator exemption, the Renewables Target Working Group (established to develop implementation recommendations for the measure) noted that this could *create incentives for changes to ownership structures simply to avoid the measure, resulting in distortions in the competitive electricity market.* The existing definition of self-generators, in requiring a company to maintain ownership of a power station which is directly connected to the point of end use of the electricity in order to meet

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90 *The Renewable Energy (Electricity) Bill 2000*, Section 31, p 20.

91 Normandy Mining Limited, Submission 19.

92 Normandy Mining Limited, Submission 19.

93 Comalco Aluminium Ltd., Submission 22, p 7.

94 Australian Aluminium Council, Submission 29, pp 6-7; Alcoa Ltd., Submission 25, pp 10-11.

> the exclusion rules, acts as a disincentive to restructuring financial or physical supply arrangements simply in order to become exempt from the measure, while still giving effect to the Government's agreement that self-generators should not be covered.[95]

1.110 The Committee agrees that this is an important objective. The amendments proposed by Normandy Mining, particularly those relating to corporate groups, would risk defeating the Government's objectives in this regard, and are too sweeping to be accepted. Other recommendations, such as the request to exempt grid connected facilities, introduce substantial complexities which cannot be dealt with in the remaining time left to establish the measure. For this reason the Committee does not advocate further changes to the Bill at this stage. However it urges the Government to continue consultations with industry to explore ways in which unintended anomalies could be eliminated while still giving effect to the Government's objectives.

1.111 The WA Government also expressed a concern that the exclusion may not apply to self-generators in the Pilbara, which while otherwise meeting the criteria for exemption, also distribute power to small remote communities. If the case meets the criteria of Section 31(2)(a), that is, 'the electricity was delivered on a grid that has a capacity that is less than 100 MW and that is not, directly or indirectly, connected to a grid that has a capacity of 100 MW or more' the exemption would remain in force.[96]

Recommendation 9

The Committee recommends that the Government consult with the Western Australian Government about the circumstances of small remote communities in the Pilbara.

Cogeneration

1.112 A number of other witnesses, including the Australian Industry Group, Comalco, Origin Energy, the Australian Aluminium Council and the Australian Cogeneration Association, express concerns that some cogenerators would be liable parties, and others would not. Cogenerators will be liable parties where the cogeneration facility, which otherwise would meet the criteria for exemption, is owned by another financial entity. This would occur in the case of the 1 MW cogeneration facility at Redcliffe Hospital, and a 30 MW facility at BP's Bulwer island site, which are both owned and operated by Origin Energy.

1.113 The Australian Cogeneration Association was concerned that this could unfairly add costs to the customers of cogeneration projects whose ownership and operation they contract to an energy services corporation, and could put some marginal projects in doubt:

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95 Australian Greenhouse Office, Answers to Questions on Notice.

96 *The Renewable Energy (Electricity) Bill 2000*, Section 31, p 20.

> There is no problem if the thermal host—in other words, the customer—owns the facility, but if someone owns the facility and supplied to them in return as an energy service, then the customer would still be liable for the cost of the two per cent. In other words, they would have to buy renewable certificates. You might ask what impact that has. Over time, the impact on electricity could be between $1 and $2 a megawatt hour. You might say that that was not very much, but it is a substantial amount of money when you are talking about marginal projects to start with when you consider that the current energy price is less than $30. You are looking at something in the order of five per cent and that could be significant for an individual project. While the relative number is small, it could have significant implications for a project. What that means is that the customer may not go ahead with the facility because it makes it a little bit more expensive.[97]

1.114 The ACA suggested an amendment to the Bill, so that under Section 31(2)(b) a relevant acquisition would not have been made if 'the end user of the electricity generated the electricity *or sourced the electricity from a facility located on its site*'.[98]

1.115 The AGO however appeared untroubled by the possible liability of some cogeneration projects, and felt that to amend the bill in this way would create further difficulties:

> The Australian Greenhouse Office considers that the legislation, as currently drafted, implements the intent of the measure, in covering wholesale sales of electricity. Wholesale sales, for the purposes of this measure, are those trades directly between a generator and an end user or the electricity pool and an end user, which occur on grids of greater than 100 MW installed capacity.
>
> Further broadening of the self-generator definition would result in a smaller number of liable parties being responsible for meeting the 9,500GWh target, establishing inequities between those wholesale purchasers who have generation on site and those who purchase from remote generation.
>
> In seeking to exempt those energy supply arrangements that are based on co-location (rather than self-generation by a single owner), the argument is often made that electricity supply from these arrangements is less greenhouse intense than from the pool, as it often uses natural gas and utilises co-generation technologies (the production of useful steam and electricity from the same process, resulting in higher efficiencies in the conversion of fuel to useful energy). However, the Australian Greenhouse Office is aware of situations where the generation from the grid would be less greenhouse intense than the diesel self-generation proposed in some sites.

97 Mr Ric Brazzale, *Proof Committee Hansard*, Canberra, 14 July 2000, p 157.

98 ACA, Submission 11, p 6.

> Finally, from an administrative perspective, the use of the term 'site' is problematic. The choice of an arbitrary boundary at which a single site ends will in itself create anomalies within the exemption.[99]

1.116 The Committee shares the concerns of the Cogeneration Association, and notes that the removal of barriers to cogeneration is a part of the Government's energy reform policy under the National Greenhouse Strategy - as is the development of an energy services industry which could contribute to energy efficiency projects such as cogeneration. It would indeed be unfortunate if an unintended consequence of the 2 per cent measure was to add further barriers to the development of cogeneration. In the Committee's view, it makes a great deal of sense for cogeneration projects to be 'outsourced' to energy service companies whose expertise and experience will ensure best practice and maximum energy efficiencies.

1.117 The Committee notes the view of the AGO that the ACA's proposed amendment may be problematic. In response, the ACA suggested an alternative amendment:

> 31 (2) (c) the electricity consumed by the end user was generated from a cogeneration facility located on the end users site.[100]

1.118 The Committee strongly urges the Government to further address the concerns of cogenerators. The ACA's second proposed amendment introduces 'cogeneration' to the Bill as a defined activity which will be exempt from liability. Given that some cogenerators are already exempt this does not seem an unreasonable step. It appears to the Committee that cogeneration could be defined in a way that does not prejudice the AGO's desire to prevent ownership structures enabling parties to avoid liability.

1.119 Another solution may be to amend the Bill so that 'cogeneration' is not deemed to be a relevant acquisition if it meets the following criteria: that it is a) of a capacity below 35 MW and b) results in power generation at an emissions intensity less than the power which would otherwise be generally available from the grid. While this would create definitional challenges, they should not be insurmountable. If these amendments cannot be prepared before the introduction of the measure they should be introduced into the Parliament at the earliest possible date.

Recommendation 10

The Committee recommends the exclusion of legitimate cogeneration projects from liability under the measure.

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99 Australian Greenhouse Office, Answers to Questions on Notice.

100 Australian Cogeneration Associations, Correspondence, 3 August 2000.

Export Rebate

1.120 Submissions from mining and aluminium industries expressed particular concern about the cost of the measure to Australian export industries such as their own which has to compete with countries that are at present exempt from the requirements of the Kyoto protocol or that, like the United Kingdom have chosen to exempt aluminium smelting from its climate change levy.[101]

1.121 Both the Australian Aluminium Council and Comalco Aluminium Ltd. called for the bills to be amended to exclude from the measure, electricity used for the production of goods and materials for export purposes. Comalco suggests an amendment:

> Such that the definition of a 'relevant acquisition' of electricity be amended to exclude electricity acquired predominantly for the production of goods/materials manufactured for export.[102]

"Double Dipping"

1.122 The Committee notes the concerns expressed in submissions about possible "double dipping" that is, the possibility that some purchasers of electricity might incur a double liability under the legislation because of complex payment structures for power purchasing arrangements entered into at an earlier date (prior to the passage of the Bills under consideration).

1.123 In its submission, Comalco Aluminium Ltd gave an example of potentially finding itself in such a situation and called for an amendment:

> to provide that there will be no "double dipping" under the legislation in respect of the supply of the same block of energy.[103]

1.124 The Committee accepts Comalco's argument that the Government clearly cannot have intended the type of outcome faced by that company (and possibly by other companies) on this issue. Accordingly,

Recommendation 11

The Committee recommends that the Bills be amended to provide that the renewable energy liability cannot be incurred twice for the same block of energy.

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101 Australian Aluminium Council, Submission No.29. Attachment 1, Alcoa of Australia Ltd. Sub. No. 25, Rio Tinto Ltd., Sub. No. 30.

102 Comalco Aluminium Ltd, Submission No. 22, p.10, Australian Aluminium Council, Submission No.29, p.8

103 Comalco Aluminium Ltd, Submission No. 22, p.9.

Secrecy and the proposed Registers

1.125 A number of submissions raised the issue of the "naming" of businesses with a Renewable Energy Certificate shortfall as provided for in section 134 of the Bill. They revealed deep concern about the possibility of naming and some submissions argued that since those companies with a shortfall would still be operating within the requirements of the legislation, naming was inappropriate.[104]

1.126 Of even greater concern to many of the businesses is that the powers given to the regulator under the provisions of Part 13 of the Bill (Registers) could result in the release of commercially sensitive information maintained on the Register. The Australian Aluminium Council explained that in its view:

> The Regulator needs to be sensitive to the commercially sensitive nature of power contract arrangements and other such matters that are relevant to this legislation.
>
> The legislation needs to be absolutely clear that such commercially sensitive information cannot be released.[105]

1.127 The Electricity Supply Association of Australia argued that:

> Publishing register information of a confidential business nature could undermine trading because it exposes individual business positions and limits market dynamics where eligible generators will try to maximise their price and liable entities will try and minimise their costs.[106]

1.128 The Committee holds the view that it is proper that there is to be scrutiny of the compliance performance of liable entities and is not convinced that this will result in the release of commercially sensitive information.

Implications for Greenpower schemes

1.129 The Committee is of the view that it would be contrary to the spirit of the Prime Minister's commitment and to the credibility of Greenpower schemes if generators were to be entitled to sell their renewable energy certificates whilst simultaneously receiving a premium from electricity retailers for the same electricity.

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104 Australian Aluminium Council,, Submission No. 29, ESAA, Submission No. 13a and Australian Industry Greenhouse Network, Submission No.27, p. 5

105 Australian Aluminium Council,, Submission No. 29, p.9

106 ESAA, Submission No. 13a, p.4.

Recommendation 12

The Committee recommends that the Government take steps to ensure that the renewable electricity generation funded by voluntary contributions to Greenpower schemes in most states is additional to the annual targets and that agreement be reached with the states as soon as possible on a process to ensure that this is the case.

Grid connection

1.130 An impediment to the take-up of renewable energy, particularly by individuals and small organisations without business relationships with the major utilities and wholesalers has been the lack of uniform grid connection standards and the lack of any requirement that wholesalers must purchase energy generated in excess of need.

Recommendation 13

The Committee recommends that the Government commences discussions with the States as soon as possible to develop uniform national codes governing interconnections to power grids and uniform arrangements for net metering, which would guarantee a fair price for independent generators.

Should there be a legislated review?

1.131 A very strong theme in a majority of submissions was the need for there to be a legislated review of the effectiveness and design of the measure.

1.132 The Australia Institute supported a review, with a priority being to review the size of the 9500 GWh cap.[107] The Sustainable Energy Industry Association also argued strongly for a review, saying that it would be an ideal mechanism to evaluate the progress of the scheme, and to consider changes based on the experience of its implementation:

> There are many uncertainties and disagreements regarding the likely effectiveness and impacts of the two per cent target scheme. It is much more likely that these can be resolved by learning from the implementation than by ongoing debate. Making provision for a review could offer an alternative to attempting to incorporate a large number of amendments in the present legislation in a situation where there are many uncertainties and time pressures. In this context, the Sustainable Energy Industry Association recommends strongly that the legislation should be amended to require a comprehensive review of the progress of the scheme two or three years from

107 Dr Clive Hamilton, *Proof Committee Hansard*, 13 July 2000, p 43.

> its initiation. This should be used to evaluate a range of issues, including industry development effects, level of targets, size of penalties, et cetera.[108]

1.133 The Renewable Energy Generators of Australia (REGA) and Hydro Tasmania also argued strongly for a review. Hydro Tasmania emphasised that it should be carried out by an independent person or body, and occur two years after the establishment of the scheme. Hydro Tasmania proposed that the review deal with the following issues:

- The size of the final target and continued growth in the target beyond 2010;
- A possible increase in the size of the shortfall charge/penalty;
- A possible extension of the measure beyond 2020;[109]

1.134 REGA argued that the review should consider:

- The impact of the measure on the renewable energy industry; including the actual changes in generation that have occurred, the growth in sector in comparison with international benchmarks;
- The extent of default by liable parties;
- The price of certificates;
- The extent to which the measure complemented other policy initiatives; and
- The Measure's impact on the development of Australian manufacturing and exports in renewable technologies.[110]

1.135 The Australian Greenhouse Office was supportive of a review, but stressed that it should not be held within three years:

> A number of people have called for the measure to be reviewed over varying periods. Certainly it would be our intention to review the measure as a matter of course within a three- to five-year period, and that is envisaged in the working group's final report. There is however, we would argue, a risk of a review too early, certainly within a time frame such as the two years that some have talked about. That is well within the bill time frame for many projects that would commence today. Therefore there is a significant risk of uncertainty being created by a review within the time frame of a project launched today … For that reason, we would suggest that a three- to five-year time frame would be a more appropriate time frame for a review of the measure.[111]

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108 Mr David Abba, *Proof Committee Hansard*, 13 July 2000, p 2.

109 Hydro Tasmania, Submission 7a, pp 3-4.

110 REGA, Submission 6a, pp 10-11.

111 Mr Philip Harrington, *Proof Committee Hansard*, 14 July 2000, p 202.

1.136 The Committee supports the inclusion of a wide-ranging review in the legislation, to be held at least 3 years after the introduction of the measure. It should be conducted by a person or body independent of any particular industry sector, and provide for public submissions to both the initial inquiry and public comment on its draft conclusions. It should have wide scope to examine the impact of the scheme on all participants, its effectiveness in implementing policy goals, and possible changes to its scope and design. In particular, the Committee recommends that it examine:

- The uptake of wind, solar power and other zero emission renewables, with a view to whether portfolio-style approaches may be needed;
- The trends in demand and investment, with a view to increasing the size of the target after 2010, or extending the measure beyond 2020;
- Whether the scheme is having anomalous impacts on participants which need to be addressed;
- The trends in shortfalls, to examine whether the size of the penalty needs to be increased;
- The list and definition of eligible renewable energy sources, with particular attention to biomass and the potential for other negative environmental impacts from the development of new renewable sources (such as the flooding of ecosystems for new hydro generation, or unsustainable farming practices).

Recommendation 14

The Committee recommends that the legislation be amended to provide for a wide-ranging review of the measure to be completed within 3 years. The review should be carried out by an independent person or body and receive public input to both its inquiry and conclusions.

Conclusion

1.137 The Committee's inquiry into the Renewable Energy (Electricity) Bills revealed that, together with some major critics, there is strong support for this measure among large sections of the electricity industry and a recognition from many large consumers of electricity that new approaches are called for. The Committee recognises that, once the legislation is passed, a great deal of work will have to be done before the measure is fully operative. The Committee urges the government to work towards having the national accreditation of renewable energy generators in place by 1 January 2001 so that no further time is lost in implementing a measure of has great potential benefit to the environment.