

Wider Impacts of the MRET Measure

- 3.1 The Terms of Reference require the Review Panel to report on MRET's wider economic, social and environmental impacts, as follows:
- Relevant economic and social impacts that have resulted from the implementation of the provisions of this Act.
 - Other environmental impacts that have resulted from the implementation of the provisions of this Act, including the extent to which non-plantation forestry waste has been utilised.

Economic impacts

- 3.2 While the development of a commercially competitive renewable energy industry may have longer term economic benefits for the national economy, MRET itself was never expected to be a 'no regrets' policy. Economic costs were anticipated. The Second Reading Speech to the legislation stated:

*Given Australia's projections for growth under a business-as-usual scenario to 128 per cent above 1990 levels, achieving our Kyoto target will require the implementation of some beyond no regret measures. The government has been clear that this measure is one of those beyond no-regrets policies.*⁶³

- 3.3 The initial development of MRET was informed by a number of studies, one of which (the 'Econtech' report)⁶⁴ directly focused on the effects of MRET on the wider economy. The Econtech report found that the long-run effect of MRET on Gross Domestic Product (GDP) would be slightly negative, at -0.03 per cent per annum. The Consumer Price Index (CPI) was predicted to grow slightly (0.05 per cent per annum), while employment was predicted to remain effectively stable, with initial decreases in employment offset by later employment growth.⁶⁵ The report concluded:

⁶³ *Parliamentary Debates*, Senate, 14 August 2000, p16243

⁶⁴ *Macroeconomic and Industry Effects of the 2% Renewables Target*, Final Report, 14 April 1999, available at: <http://www.greenhouse.gov.au/markets/mret/econtech.html>

⁶⁵ *Macroeconomic and Industry Effects of the 2% Renewables Target*, p4, table 2

Overall, the results show small and negative macroeconomic consequences from the measure. The results are negative because the measure will reduce underlying productivity, therefore lowering incomes and expenditure. In particular, consumption is reduced. For the measure to be worthwhile, these reductions in the material wellbeing of Australians would need to be outweighed by the benefits of the measure.⁶⁶

- 3.4 Because the MRET review is being conducted so early in the MRET's scheduled period of operation, it is difficult for the Review Panel to make any substantive assessment of its economic impact to date, except to note that it has been minimal.
- 3.5 During 2003, the AGO commissioned McLennan Magasanik Associates (AGO/MMA report) to conduct an assessment of the impacts of changes to MRET's main design parameters. One case modelled in this report was MRET's impact over the medium to longer term. While the report's primary purpose was not to discuss the economic impact of MRET, a discussion is contained within it. The main impacts modeled were GDP, employment and investment, with the results set out in Table 3.

Table 3—Predicted economic impacts of MRET (2003 to 2020)⁶⁷

	2003–2007	2008–2012	2013–2020
Average electricity price impact to end-users (\$/MWh)	0.97	1.44	1.23
Investment (\$M)	3,690	30	50
Employment—renewable generation (average additional employment per annum)	1900	3100	2500
Employment—fossil fuel generation (average additional employment per annum)	-500	-400	-300
Employment—economy wide (average annual FTE)	-200	-1000	-1000
GDP (\$M average per annum)	-38	-260	-325

⁶⁶ *Macroeconomic and Industry Effects of the 2% Renewables Target*, p4

⁶⁷ Table 3 source; *Economic Impacts of Changes to the Mandatory Renewable Energy Target*, Vol. 1, p14. Monetary values are expressed in mid 2003 Australian dollar terms. Numbers in parentheses are percentage change from the 'No MRET' case. 'New Renewable Capacity' covers generation above the 1997 base line generation level.

- 3.6 These results confirmed the widespread expectations from interested parties that, under current MRET settings, after a period of growth, investment would stall almost completely from 2007 onwards.
- 3.7 It also appears from the AGO/MMA report that Econtech's 1999 prediction of 'small and negative macroeconomic consequences from the measure' was well founded. GDP is expected to be reduced by a negligible amount up until 2007 but by a larger, but still relatively small, amount over the period through to 2020.
- 3.8 The AGO/MMA report also estimated that employment in the renewable energy sector would continue to grow throughout the entire period to 2020, despite the falloff in investment in the second and third periods. These anticipated employment gains in the renewable energy industry would however, be offset by some job losses in the fossil fuel generating sector and further job losses elsewhere in the economy such as in large energy using companies.
- 3.9 The report shows that the net employment effect across the entire economy is likely to result in very small net job losses, peaking at 1000 jobs lost per annum.

Cost impacts

- 3.10 MRET is effectively an implicit subsidy to the renewable energy industry because it has the effect of transferring financial resources, at the expense of retailers and energy users, to the renewable energy industry.
- 3.11 Each year, energy retailers and other liable parties are required to surrender RECs obtained at a cost. This cost, which would not apply without MRET, is often passed on to energy users in the form of higher electricity prices. As a result, MRET imposes costs on retailers and energy users.
- 3.12 Costs can still be reduced as a consequence of national energy reforms or by efficiency improvements. It must be recognised, however, that MRET does result in higher electricity prices than would otherwise be the case.
- 3.13 During MRET's development the Renewables Target Working Group commissioned work by Tony Beck Consulting and Energetics (the Beck/Energetics report), which concluded:

In considering the broad sectoral impacts of the measure, relatively straightforward calculations indicate that the higher cost of generating renewable energy will increase the average cost of supplying electricity by 1 to 3 per cent depending on the renewable technology mix. Recent costing by Econtech, based on a least cost technology mix, put the likely electricity cost increase towards the bottom of this range.

Low margins and increasing contestability in the electricity retailing sector suggests that there is limited scope for absorbing these cost increases so it is likely that a significant proportion will be passed on to the consumer. The extent of the pass on may vary depending on the degree of price competition in each market segment with the least contestable segments (residential and commercial) likely to see the most significant cost increases.⁶⁸

- 3.14 A number of submissions were received regarding the impact of the MRET measure on electricity prices. Origin Energy commented that the cost of MRET in 2010 would be \$1.32 per MWh or less than 4 per cent.⁶⁹
- 3.15 This expectation is consistent with the results of a report commissioned by Origin from MMA (Origin/MMA report) which concluded:

In this study, it was found that the additional cost from restricting new coal plant and mandating a higher renewable energy target was small when spread over all customers. The estimates of the additional electricity supply cost range from \$0.9/MWh to \$2.1/MWh [in 2010].

At this level, the additional cost will have minimal impact on the cost competitiveness of industries that are energy intensive ... Australia's competitiveness relative to other developed countries is only slightly affected when comparing electricity supply costs to industrial customers.⁷⁰

- 3.16 The conclusions of the Origin/MMA report were criticised by the Australian Aluminium Council, the Australian Coal Association, and the Minerals Council of Australia, who had commissioned ACIL Tasman to write a report entitled *Review of MMA Report to Origin Energy Limited on MRET* (the ACIL Tasman Report).⁷¹
- 3.17 The ACIL Tasman report attempts to rebut perceived weaknesses in the Origin/MMA report. It concluded that the additional cost of the current MRET scheme would be \$2.38 per MWh in 2010 (or 10.8 per cent).
- 3.18 The ACIL Tasman report also predicted that larger price increases would result from any effort to expand MRET. The ACIL Tasman estimates are higher, mainly because they assume that by 2010, the cost of RECs would be around \$57, which is equivalent to the pre-tax value of the \$40 shortfall charge.

⁶⁸ *Sectoral Impacts of the Two Percent Renewables Target*, p1

⁶⁹ Origin Energy, submission 170, p2

⁷⁰ *Incremental Electricity Supply Costs from Additional Renewable and Gas-Fired Generation in Australia*, p51

⁷¹ Australian Aluminium Council, Australian Coal Association, Minerals Council of Australia, Attachment to submission 152

- 3.19 During consultations, numerous liable parties and renewable energy certificate traders envisaged that, under the existing MRET settings, the renewable energy certificate price would remain below the pre-tax equivalent of the shortfall charge.
- 3.20 More broadly, ACIL Tasman commented on the overall impact of MRET on electricity prices, concluding that:

To remain competitive, Australian electricity prices will need to remain stable in real terms, if not fall, as other countries strive for efficiency improvements in their own electricity markets. Increasing electricity prices will not maintain Australia's competitiveness.⁷²

- 3.21 The AGO/MMA report found an average initial cost to end users of \$0.97 per MWh (2.4 per cent), rising to \$1.44 (3.6 per cent) in 2008 to 2012, then declining slightly to \$1.23 (3.0 per cent) in 2013 to 2020. These figures are broadly consistent with those provided by MMA to Origin Energy, but much smaller than those provided by ACIL Tasman.⁷³
- 3.22 Overall, the cost impacts to date have been minimal and are likely to remain small.

Impact on industry sectors

- 3.23 The 1999 Beck/Energetics report focused on four industry sectors: the electricity industry, the aluminium sector, pulp and paper industries, and renewable industries. During the Review Panel's consultations, the silicon industry emerged as a similarly affected industry. A discussion of the impacts on a range of sectors follows.

Electricity retailers

- 3.24 Evidence submitted to the Review Panel indicates that margins in the electricity retailing sector tend to be low due to recent trends of falling electricity prices arising from increasing contestability in electricity markets, and that MRET consequently results in higher electricity costs to consumers.⁷⁴ The submissions received from a range of retailers and industry bodies, indicate that retailers operating in contested markets have the capacity to pass through costs. For example, Energy Australia stated:

⁷² Review of MMA Report to Origin Energy Limited on MRET, p11

⁷³ Based on a pool price of \$40 per MWh. The Review Panel has been careful to observe that the similarity between the two MMA figures may, of course, reflect the fact that both figures were calculated by the same model and modeller.

⁷⁴ Sectoral Impacts of the Two Percent Renewables Target, p11

Most, if not all, liable parties (Retailers) within the MRET Scheme pass through the increased costs of compliance to the end consumer. Whilst the impact is relatively minor at this stage, the cost of MRET in developing renewable energy generation and reducing greenhouse gas emissions will be ultimately met by business, government and the community via increasingly higher electricity prices as the targets increase.⁷⁵

- 3.25 However, some retailers expressed concerns regarding two circumstances where they are unable to pass on costs. The first of these relates to regulated markets, in which there are no guarantees that the regulators will allow full cost pass through of MRET costs. Country Energy stated:

IPART's ('Independent Pricing and Regulatory Tribunal') determination for regulated retail prices for electricity sets target tariffs for Country Energy's regulated customers until 30 June 2004. The target tariff allows a maximum amount of pass through for MRET and the NSW Benchmarks scheme of between \$0.50 and \$2.20.

While the regulated target tariff includes a component to cover the renewable energy obligations, not all regulated prices are at the target level. This means that the actual revenue currently being received to cover renewable compliance costs varies significantly across tariffs. Country Energy currently has many prices under the target retail tariff and a large proportion of those tariffs may not reach the target retail tariff by 2004. This situation will be further compromised if anticipated increases of greater than CPI are experienced in components of the target retail tariff.⁷⁶

⁷⁵ Energy Australia, submission 122, p5

⁷⁶ Country Energy, submission 206, p2

- 3.26 The second circumstance under which retailers face difficulties in passing on costs to consumers occurs where long term power supply contracts, which pre-dated MRET, are in place. Not all of these contracts allow for costs such as those imposed by MRET to be passed on to the customer. Aurora Energy stated:

Further Aurora has several customer contracts which were in existence prior to the MRET legislation being enacted. These contracts do not provide for the pass through of REC costs to the customers, and therefore Aurora is stranded with the costs, instead of being able to pass the costs through to the customers, as contemplated by the legislation.

For the period between 2003–2010, Aurora is faced with up to \$10,000,000 in costs that it is unable to pass through to contract customers.⁷⁷

- 3.27 The overall impact of MRET to date on electricity retailers has been minimal where they have been able to pass costs through to consumers, although, there have been costs imposed on retailers where they have been unable to pass those costs on.

Aluminium

- 3.28 The Beck/Energetics report expected electricity costs to the aluminium sector to increase by between one to three per cent, representing a potential increase of up to almost one per cent of the production costs of aluminium.⁷⁸ The report also noted that the aluminium sector has little opportunity to pass this cost on to customers. The report noted:

Given the significance of electricity as an input to aluminium smelting, profitability and investment in the industry is clearly sensitive to the cost of electricity. [...] While it is probably reasonable to assume that most retail electricity contracts allow for the pass on of taxes and levies, it is not clear that the cost of meeting the renewables target would qualify as such.⁷⁹

- 3.29 The Review Panel further consulted the Australian Aluminium Council and is satisfied that in most cases, contractual arrangements do not shield aluminium producers from the additional costs imposed by MRET. It appears most contracts have been negotiated after the commencement of the scheme, or contain other provisions, that allow electricity retailers to pass on costs.

⁷⁷ Aurora Energy, submission 205, p2

⁷⁸ Note, however, that these percentage increases were based on a pool price for electricity of \$20 per MWh, much lower than current average prices of \$35 per MWh to \$50 per MWh.

⁷⁹ *Sectoral Impacts of the Two Percent Renewables Target*, p11

- 3.30 In consultations, aluminium producers expressed concern that the additional costs imposed by MRET are having a negative impact on competitiveness. The Australian Aluminium Council stated:

The price of aluminium is set globally on the London Metal Exchange (LME). Greenhouse (energy) price increases imposed on the Australian aluminium industry cannot be passed on to customers. Such cost impacts at national and/or state level not imposed on our competitors, mainly located in countries without specific emission reduction obligations, will undermine Australia's international competitiveness. Without competitive energy, growth in Australian aluminium production and the associated energy demand will not materialise – and existing operations may be prematurely phased out.⁸⁰

- 3.31 Other minerals industry participants⁸¹ also supported this view.

- 3.32 As a possible solution, some aluminium producers proposed that energy-intensive trade-exposed industries should be exempted from the MRET scheme. In its submission Comalco commented:

There are precedents for excluding electricity-intensive exporting industries from the operation of MRET (potentially by an export rebate structure). This would be consistent with the treatment of exports under the GST legislation. The Queensland Government has directly acknowledged the soundness of this concept by exempting major electricity users (all are major exporters) from its 13% gas obligation to commence in 2005. Specifically, in the aluminium sector, countries such as Norway, France, Canada and the United Kingdom have fully or partially exempted aluminium from the payment of various taxes and charges in exchange for negotiated agreements. New Zealand has recently announced this type of policy recognising certain companies and industries as 'competitiveness-at-risk'.⁸²

⁸⁰ Australian Aluminium Council, submission 156, p2

⁸¹ Comalco, submission 71; Minerals Council of Australia, submission 231

⁸² Comalco, submission 71, p6

Pulp and paper industries

- 3.33 Like the aluminium industry, the pulp and paper industry is both energy intensive and trade-exposed. As a result, measures such as MRET which increase electricity prices have an impact on its competitiveness. The Australian Paper Industry Council stated:

It must be understood that any increase in electricity costs reduces the competitiveness of Australian industries, particularly those that are highly energy intensive and trade-exposed such as paper manufacturing. Increased electricity costs, an historical competitive advantage for Australia, will inevitably reduce the attractiveness of Australia as an investment destination, particularly for energy intensive industries.⁸³

- 3.34 In submissions and consultations it became evident that the pulp and paper industry has significant potential to minimise the MRET's impact by generating renewable energy for use on-site, a practice which has been customary in this industry for some time.
- 3.35 Indeed, the pulp and paper industry already sources 31.5 per cent of its total energy requirements (both electrical and other energy) from renewable sources.⁸⁴

Silicon

- 3.36 The silicon industry in Australia has only one company, Simcoa Operations Pty Ltd, which exports over \$80 million worth of silicon per annum. Most of this silicon is exported to Japan, where it is converted into silicon-based products such as sealants and medical products.
- 3.37 Silicon is also a raw material used in the manufacture of solar cells which contribute to greenhouse gas abatement. It is an energy intensive product exposed to world markets. Rising energy prices have a direct impact on Simcoa's performance.
- 3.38 Given that cheap energy is a direct source of competitive advantage to Simcoa, the impact of increases in energy prices may be particularly onerous. Simcoa describes the potential impact as follows:

In the current form, and based on a certificate price of \$57/MWh, MRET is expected to increase SIMCOA's net operating costs by approximately 1.3% or \$750,000 per annum by 2010. The cumulative cost to 2010 is likely to be over \$3 million. SIMCOA is aware that some parties will argue to the Review Panel that the MRET target should be increased to 30,000 GWh (that is, 10% of estimated electricity demand in 2010). SIMCOA's analysis has found that this would increase our net operating costs by over 5.2% or \$3 Million per annum by 2010.⁸⁵

⁸³ Australian Paper Industry Council, submission 64, p6

⁸⁴ Australian Paper Industry Council, submission 64, p4

⁸⁵ Simcoa Operations Pty Ltd, submission 147, p14

- 3.39 It is important to bear in mind that Simcoa's analysis is based on the ACIL Tasman report's assumption of a renewable energy certificate price of \$57 per MWh by 2010. A lower renewable energy certificate price would inevitably reduce the additional operating costs to the company.
- 3.40 Overall, the Review Panel concluded that the economic impacts of the MRET measure were substantially as anticipated by the original policy designers.
- 3.41 In most cases, the increases in costs can be passed through by electricity retailers to consumers. In a limited range of circumstances, regulated markets and contract provisions do not allow cost pass through, resulting in the retailers being able to pass through only some of the costs associated with MRET.
- 3.42 Some interested parties have suggested that the MRET legislation should be amended to enforce cost pass through. However, such provisions would raise issues for State and Territory electricity market regulatory arrangements and may compromise commercially negotiated contracts.
- 3.43 The Review Panel considers that there are no grounds for changes to the MRET measure to enforce cost pass through and that these are more appropriately matters for State and Territory governments, and the commercial parties concerned.
- 3.44 The Review Panel accepts that MRET imposes costs which erode the competitiveness of energy intensive, trade exposed industries to varying degrees.
- 3.45 However, in its development, it was understood that MRET would not be a 'no regrets' measure and that costs to energy using industries were expected.
- 3.46 There is little evidence to suggest that the impact of MRET is exceeding that which was anticipated.
- 3.47 Should energy intensive, trade exposed industries be excluded from MRET their avoided MRET costs would need to be shared among all other energy users, increasing the costs of the scheme to those users.
- 3.48 Any exclusion would also undermine the basic principle of the scheme, that MRET liabilities accrue to electricity users, in proportion to the quantity of their usage.
- 3.49 The Review Panel does not recommend any exclusion from the MRET measure for energy-intensive, trade exposed industries.

Social impacts

3.50 Term of Reference (j)(ii) requires the Review Panel to report on the social impacts that have resulted from the implementation of the provisions of the Act.

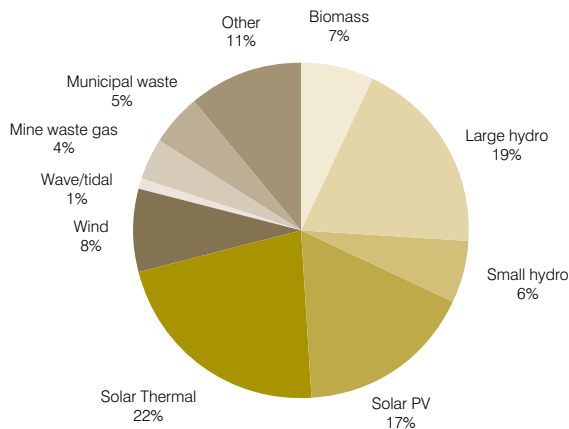
Employment

3.51 The Ellis study⁸⁶ estimated that total direct employment of 6189 in the renewable energy industry in 2002–03. Since 1999, employment within the sector has grown by 2014 full time equivalent jobs across all States and Territories. Direct employment levels increased by 25 per cent between 1999–00 and 2000–01, and by around 18 per cent between 2000–01 and 2002–03.

3.52 This recent slowing of employment growth may, as suggested by interested parties in submissions and consultations,⁸⁷ partly reflect a stalling of investment since the release of the Parer Report in December 2002.

3.53 Figure 16 shows the employment contributed by the majority of renewable technologies in Australia. The highest levels of direct and indirect employment arise from large hydro, solar PV, and solar thermal energy sectors.

Figure 16—Total annual employment by technology (2001–2002)⁸⁸



⁸⁶ Mark Ellis & Associates. April 2003. *Economic Performance and Contribution of the Sustainable Energy Industry 2002: Renewable Energy Supplement*

⁸⁷ Renewable Energy Generators of Australia, submission 108; Australian Wind Energy Association, submission 198

⁸⁸ Figure 16 source; Mark Ellis & Associates. April 2003. *Economic Performance and Contribution of the Sustainable Energy Industry 2002: Renewable Energy Supplement*, pg 12. Note: 'mine waste gas' is not an eligible renewable energy source under MRET.

- 3.54 In March 2002, a study by MacGill, Watt and Passey⁸⁹ explored the comparative employment and regional development opportunities and focused on the growth in the renewable energy industry compared to conventional energy production. This study examined six established generators, with four of these utilising renewable fuels and two representing new fossil fuel generation projects.
- 3.55 The study found that the renewable energy projects consistently showed greater employment creation per dollar invested, per MW installed and per MWh generated, than the two fossil fuel projects.
- 3.56 Biomass generators, in particular, tend to provide more jobs than other technologies, especially in terms of ongoing operation and maintenance, and in fuel collection. The biomass generators studied, also supplied products beyond electricity, providing several revenue streams for project developers.
- 3.57 While the study drew attention to the fact that some renewable energy technologies are relatively immature and that employment characteristics and cost structures are likely to change over time, it also found that employment levels vary significantly for different technologies, project designs, levels of investment and installed capacity.
- 3.58 Hydro Tasmania drew attention to the employment growth in north-west Tasmania arising from their wind energy projects, summarised here:

Tasmania's wind energy projects, underpinned by MRET, are already creating significant numbers of jobs throughout Tasmania, especially in the north west of the State. Construction of our planned wind farms will have a direct employment benefit, as summarised below.

Construction jobs from Hydro Tasmania's planned wind farm developments:

Woolnorth, Tasmania	150
Musselroe, Tasmania	150
Heemskirk, Tasmania	180
Cathedral Rocks, South Australia	85

As a result of Hydro Tasmania's MRET-driven wind developments, Vestas—a Danish wind technology firm—is sourcing wind turbine components from local manufacturers and is building a \$14 million nacelle assembly plant at Wynyard, which will employ about 69 people in an area of significant unemployment.⁹⁰

⁸⁹ MacGill, I., Watt, M., Passey, R. 2002. *Jobs and Investment Potential of Renewable Energy: Australian Case Studies*. Australian Cooperative Research Centre for Renewable Energy, Australian Ecogeneration Association, Renewable Energy Generators of Australia

⁹⁰ Hydro Tasmania, submission 104

- 3.59 Looking ahead, the AGO/MMA report on the impact of MRET indicates that employment in the renewable energy sector is expected to continue to grow strongly throughout the entire period to 2020. This growth may be offset by some job losses in the fossil fuel generating sector, also located in regional areas, and some further job losses elsewhere in the economy.

Regional development

- 3.60 Many parts of regional and rural Australia are disadvantaged relative to urban areas in terms of employment levels, income and access to services.⁹¹
- 3.61 In August 2001, the Deputy Prime Minister and Minister for Transport and Regional Services, the Hon. John Anderson MP, launched the Australian Government's vision for regional Australia—*Stronger Regions, A Stronger Australia*.⁹² This statement outlines a vision for regional Australia:

[w]here local leadership, self-reliance and turning new ideas into action are the driving force in development; where infrastructure and services are in place, where there is new investment and growing job opportunities and where families and businesses thrive.

- 3.62 In August 2003, the Government released an analysis of issues facing regional businesses, prepared by a government appointed panel. This report *Regional Business: A Plan for Action* outlines key issues for regional Australia:

*Regional Australia can only survive on the back of strong, growing businesses that create strong, vibrant communities. It has been highlighted [...] that regional small and medium businesses are the wealth creators and job providers for regional Australia. [...] Regional businesses (also) allow the Australian economy to take advantage of the full breadth of opportunity offered by our enormously varied landscape.*⁹³

⁹¹ Sorensen, T. 2000. *Regional Development: Some Issues for Policy Makers*. Parliamentary Library Research paper 26 for 1999–2000. Canberra

⁹² Commonwealth of Australia. 2001. *Stronger Regions, A Stronger Australia*. Canberra

⁹³ Commonwealth of Australia. 2003. *Regional Business: A Plan for Action*. Canberra, p6

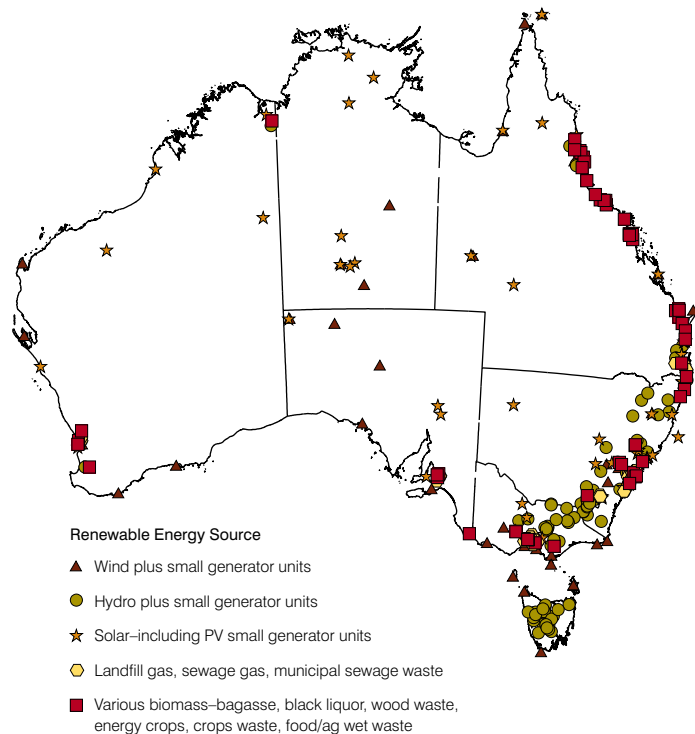
3.63 The importance of employment creation and attracting new investments to rural and regional Australia is widely recognised. The potential contribution of renewable energy industry to contribute projects to the Government's regional development objectives was also recognised in the recent Parer Report:

*Regional Australia stands to benefit from a greater uptake of renewable generation technologies [...] Resource and land availability considerations mean that many such technologies are likely to be regionally based and bring economic benefit to regional areas.*⁹⁴

3.64 Figure 17 shows the dispersal of MRET accredited renewable energy generators across Australia as at July 2003.

3.65 An important driver influencing renewable energy developments in regional Australia is the availability of renewable fuel sources.

Figure 17—Map of accredited renewable energy generators⁹⁵



⁹⁴ Council of Australian Governments Energy Market Review Final Report. 2002. *Towards a Truly National and Efficient Energy Market*. Canberra

⁹⁵ Figure 17 source; Office of the Renewable Energy Regulator 2003. Available at www.ga.gov.au/map/orer/TOC.html

- 3.66 Many submissions commented on the significant contribution that MRET and renewable energy projects could make to regional development and local economies.
- 3.67 The Victorian Government⁹⁶ commented that renewable energy developments have the potential to provide significant regional employment opportunities. For example, Pacific Hydro's wind energy project in Portland is expected to create over 400 jobs by the end of 2003.
- 3.68 Babcock & Brown,⁹⁷ an international investment bank, advised it has significant investments planned in renewable energy projects in regional south-east South Australia, including a biomass plant utilising plantation based wood waste as fuel. The plant is expected to require a capital investment of approximately \$50 million, with the following regional development impacts anticipated:
- 150 jobs during the 24-month construction period
 - 30 jobs to operate the power station
 - 50 jobs for sourcing fuel
 - 80 jobs will be created indirectly for the power station
 - Leveraged investment of \$8 million from other parties such as additional harvesters, grinders, hoppers, chippers and other equipment and processes needed to supply each plant.
- 3.69 The Review Panel was advised in a number of submissions and consultations of the potential for renewable energy projects to provide a source of diversified revenue for rural and regional areas undergoing structural change.
- 3.70 Bundaberg Sugar commented on bagasse generation in north-eastern Australia:

*The Australian sugar industry has for the past few years been undergoing significant hardship due to drought and low raw sugar price... The more efficient use of steam within a sugar mill in conjunction with high-pressure steam boilers and condensing/pass-out steam turbine generators is the most direct way that sugar mills can contribute in a significant way to renewable energy supply. Such developments will add some diversity to sugar milling and provide an additional source of revenue.*⁹⁸

⁹⁶ Victorian Government, submission 173, p23

⁹⁷ Babcock & Brown, submission 124

⁹⁸ Bundaberg Sugar submission 27, p5

- 3.71 Wind farms occupy only a small proportion of land (less than one per cent) and are highly compatible for dual land usage alongside other agricultural and grazing activities. This supplementary land use has seen some land holders realise more than \$5000 per turbine per annum, over the life of the wind farm.⁹⁹
- 3.72 A number of submissions drew the Review Panel's attention to the potential for adverse impacts. In particular, wind farm developments in the southern Gippsland region of Victoria prompted a number of local residents to make submissions. One of the issues raised was the potential for local land values to be adversely affected by the visual impact of wind turbines in the region:

[Wind farms] are highly visible moving structures and are not necessarily viewed enthusiastically by all [...]. The first recorded sale of a home near turbines at Toora is about to happen after a difficult 18-month marketing period. The price achieved is significantly lower than the vendors anticipated. Local council rates notices indicate a drop in capital improved value compared to substantial rises throughout the rest of the shire.¹⁰⁰

- 3.73 The local council also commented:

We know from anecdotal evidence from real estate agents that there is resistance to buying properties when wind power stations are in existence or proposed. This will, we fear, have an adverse effect on the growth and financial viability of the Shire. There is also evidence of people leaving the area as a result of proposed or actual wind power station development.¹⁰¹

- 3.74 Such local community opposition is similar to some overseas experiences, particularly in the United Kingdom and United States of America. At this stage, it is unclear what impact wind farm developments in Australia may have on local land values and possible population movements in surrounding regions. International experience on this issue has been inconclusive, with some wind farm developments generating positive social and regional development impacts.¹⁰²
- 3.75 Other potential impacts for regional areas may come from the upward pressure on electricity prices. Many energy-intensive sectors are located in regional areas and increased electricity prices may affect their operations.

⁹⁹ Passey, R. 2003. *Driving Investment, Generating Jobs: Wind Energy as a Powerhouse for Rural and Regional Development in Australia*. Melbourne

¹⁰⁰ Tarwin Valley Coastal Guardians Inc, submission 50, p8

¹⁰¹ South Gippsland Shire Council, submission 154, p2

¹⁰² Sterzinger, G., Beck, F., and Kostjuk, D. 2003. *The Effect of Wind Development on Local Property Values*. Washington

3.76 Overall, MRET is likely to have both positive and negative impacts in regional and rural Australia, with positive social and employment outcomes in areas benefiting from renewable energy developments. At the same time, it should be recognised that by increasing electricity costs for energy intensive trade exposed industries there may be accompanying negative impacts in other areas of regional Australia in which those businesses operate.

Levels of community support

3.77 Levels of community support for individual project proposals in local areas can vary, sometimes significantly.

3.78 As representatives of communities, all levels of government in Australia have demonstrated support for renewable energy through policy and legislative instruments such as MRET or other industry assistance measures.

3.79 Evidence was submitted to the Review from Greenpeace highlighting community support for renewable energy:

According to a Taylor Nelson Sofras Poll, over 80% of Australians support a government position of building and subsidising companies to build solar and wind power stations to provide more electricity, with 84% of the rural community supporting this proposition.¹⁰³

3.80 A Newspoll survey commissioned by Greenpeace¹⁰⁴ also highlighted Australian consumers' willingness to pay an additional premium to facilitate increased renewable energy in Australia's electricity mix.

3.81 An exception to this support came from a range of interested parties¹⁰⁵ criticising the continued inclusion of wood waste from native forests as an eligible renewable energy source under MRET.

3.82 A further area of concern was focussed on wind farm developments in the southern Gippsland region of Victoria:

Since the introduction of MRET, the wind power industry has been staking claims right along the southern coast of Victoria showing little regard for landscape, rural communities, heritage values or the rights of individual landowners. This has caused a significant impact on rural community life bringing a steady stream of bad feeling into a previously integrated and close-knit society.¹⁰⁶

¹⁰³ Greenpeace Australia, submission, 194, p7

¹⁰⁴ Greenpeace Australia Pacific. May/June 2003. *Renewable Energy Study—Wave 2*. Sydney

¹⁰⁵ Submissions expressing concerns included some government authorities, environment and community groups, electricity retailers, academics, and industry groups. This matter is discussed more fully within Chapter 8.

¹⁰⁶ John & Gillian Rees, submission 33; Anne Clarkson, submission 35; Brian Thorborrow, submission 48; Mary Lucy, submission 54; Margaret Thornborrow, submission 68; Suellen Lee, submission 75; Patricia & Norman Broberg, submission 92; Mark Burfield, submission 97; John & Marion Minty, submission 150; Mary Bond & Robert O'Sullivan, submission 225

- 3.83 Submissions¹⁰⁷ from a number of local community organisations within the same region also supported these comments.
- 3.84 Several studies¹⁰⁸ have been undertaken in European countries, where wind farms are more prevalent,¹⁰⁹ examining community responses to wind energy projects. These studies found that community attitudes could be dynamic, changing from generalised support to evolving opposition during the course of a particular project development, and that community resistance at the later phases of project development could impose financial costs on project proponents.
- 3.85 The Review Panel concludes that there is broad-based community support within Australia for renewable energy and for MRET as a measure to help achieve an expanded role for renewable energy.

Access to and affordability of electricity

- 3.86 Access to affordable, reliable electricity for the purposes of heating, lighting and power is considered by many Australians to be an essential 'public good'.
- 3.87 Australian governments (particularly State and Territory governments) have traditionally played key roles in the provision of electricity and related infrastructure and services. With the advent of energy market reform across Australia, new roles, relationships, and service providers, as well as new technologies are emerging, with implications for affordable access to electricity.

Access

- 3.88 Renewable energy technologies, particularly stand-alone renewable remote area power supply (RAPS) systems, are considered to have an important role to play in progressing the goal of universal access to affordable, reliable electricity, especially in rural and remote areas.
- 3.89 To 18 August 2003, 145 small generation units (PV and wind) had been accredited to create RECs under MRET, and around 43 000 solar water heater systems received similar accreditation.
- 3.90 While MRET, in conjunction with State and Territory governments rebate programs, has been successful in encouraging the installation of solar water heating systems, its impact in encouraging RAPS systems in off-grid applications in rural and remote regions of Australia has been only marginal.

¹⁰⁷ Prom Coast Guardians, submission 60; Tarwin Valley Coastal Guardians Inc, submission 50

¹⁰⁸ Edge, G. 2002. *A harsh environment—NFFO and the UK renewables industry*. London. Krone, S. 2002. *Wind Energy Policy in Denmark: 25 years of Success—What Now?* Available at www.windpower.dk. Wolsink, M. 2000. *Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support* Renewable Energy 21, p49–64.

¹⁰⁹ It is important to note the European wind farms examined are far larger than presently proposed in Australia, with older turbine technologies utilised.

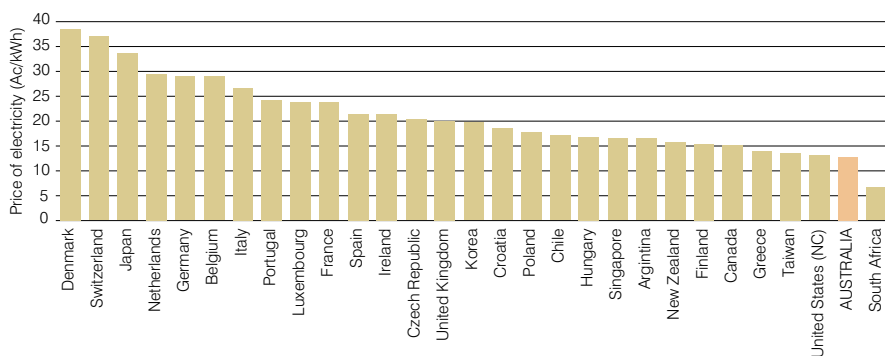
3.91 It was evident from submissions and consultations that other government programs such as the Photovoltaic Rebate Program and the Renewable Remote Power Generation Program—where to July 2003, around 3000 small PV and wind generation units have been installed—are more important policy drivers for the uptake of these renewable energy applications in rural and remote regions of Australia.

Affordability

3.92 Presently, the cost of electricity for Australian residential consumers is among the lowest of the world’s developed countries, as shown in Figure 18 below.

3.93 Energy market reform initiatives in Australia are designed to maintain and improve the affordability of electricity.

Figure 18—International residential electricity prices (January 2002)¹¹⁰



3.94 The Origin/MMA report estimated that under current settings MRET is expected to result in additional electricity costs of approximately \$1.32 per MWh in 2010 depending on the performance of the industry and renewable electricity certificate prices.

3.95 Few submissions claimed that the projected cost of the current MRET measure was not affordable, with the Australian Consumer Association noting:

¹¹⁰ Figure 18 source; Electricity Supply Association of Australia 2003. Annual consumption of 3500 kWh, prices are for the largest cities, includes all taxes.

Australia Consumer Association does not as a rule support the extension of industry assistance in the form of direct imposts on consumers. We prefer such assistance to proceed by the transparent and direct route of government provision. [...] There does seem to be reasonable consumer acceptance of the MRET program at the current level.¹¹¹

Health

- 3.96 Few submissions addressed the issue of health impacts from MRET.
- 3.97 Doctors for the Environment addressed the contribution that renewable energy could make to efforts to mitigate climate change, more broadly, and to the role of the renewable energy sector in ameliorating health problems in regional and rural Australia:

Doctors for the Environment draws attention to the need for increased local employment and self sufficiency in many deprived regions of rural Australia in order to alleviate economic hardship, depopulation, clinical depression and suicide. It has already been demonstrated that local renewable energy projects may play an important role in the correction of some of these problems.¹¹²

- 3.98 Origin Energy¹¹³ argued that development of the renewable energy industry in Australia would serve to reduce particulate and other noxious emissions from coal-fired generation and indirectly reduce the cost the community in asthma and related respiratory health and social impacts.
- 3.99 Greenpeace expressed concerns about the potential in Australia for adverse health impacts from continued inclusion of municipal solid waste as an Eligible Renewable Energy Source under s.17 of the Act:

Health risk assessments for the impact of incinerators on workers, environment and communities almost always conclude that there is no significant health risk. However, health risk assessments usually exclude the exceedences and upset conditions associated with incinerators, mainly because of data gap in the recording and monitoring of such events [...]. The precautionary approach is a safer option [...].¹¹⁴

¹¹¹ Australian Consumer Association, submission 10, pp1-2

¹¹² Doctors for the Environment, submission 42, p1

¹¹³ Origin Energy, submission 170

¹¹⁴ Greenpeace Australia, submission 194, p19

- 3.100 In Australia, environmental health responsibility for approving and monitoring electricity generators using municipal solid waste as a fuel source rest with relevant State and Territory governments environment protection agencies.
- 3.101 In the case of the MRET-accredited generators using municipal solid waste as a fuel source, all accredited generators are located in NSW and operate under licensing agreements with the NSW Environment Protection Agency.
- 3.102 The majority of these MRET-accredited generators are existing coal fired generators who have a license to co-fire their generators with a maximum of ten per cent alternate fuels, which under their license is restricted to waste oil (not eligible under MRET) and untreated wood wastes only. These generators do not have a license to incinerate other municipal waste materials.

Broader Environmental Impacts

- 3.103 The Terms of Reference for the Review required the Review Panel to examine the:

'...environmental impacts that have resulted from the implementation of the provisions of this Act, including the extent to which non-plantation forestry waste has been utilised [...]

- 3.104 Views expressed to the panel by interested parties identified a number of areas for consideration regarding environmental impacts, including:
- biodiversity and habitat protection
 - salinity mitigation
 - weed control
 - waste management
 - visual amenity and noise pollution
 - air quality.

Biodiversity and habitat protection

- 3.105 Australia is recognised as one of the world's most diverse environments. Efforts to preserve Australia's biological diversity is characterised by a national framework of legislation and programs seeking to provide protection and promote ecologically sustainable development through the conservation and sustainable use of natural resources.

3.106 Historically, large-scale hydro generators have had significant environmental impacts on surrounding riverine (aquatic and terrestrial) ecosystems. There have been no new large hydro generators established since the operation of MRET. In their submission, REGA stated:

*The MRET is increasingly introducing more efficient technology and infrastructure into the Australian renewable energy industry. [...] in the case of hydro this means more energy output per unit of water and greater opportunities for water conservation.*¹¹⁵

3.107 The inclusion of biomass as an Eligible Renewable Energy Source was a contentious issue, particularly regarding the use of native forest waste as an energy source. After extensive debate, 'wood waste' (including native forest waste) and 'energy crops' were made eligible, with regulations developed to guide decision making by ORER.

3.108 For biomass from native forests to be considered an eligible renewable energy source under the Act, the proponent must satisfy a number of criteria, including:

- compliance with relevant Australian Government as well as State, Territory and Local governments' planning and approval processes
- ensuring relevant harvesting regimes are in accordance with ecologically sustainable forest management principles required under the relevant Regional Forest Agreement (RFA) (or equivalent, to the Minister's satisfaction)
- that the biomass concerned is genuine waste, established by the 'primary purpose' clause within the Regulations and determined through the application of a higher value financial test.

3.109 In its submission to the Review, ORER advised:

As at 30 April 2003, nine applications seeking accreditation of power plants using wood waste had been received. Eight of these applications have been successful, whilst the ninth is awaiting final commissioning details of the plant, expected in the next couple of years, before the accreditation assessment can be finalised. The accredited plants include six existing coal fired power stations [co-firing with wood waste], a paper mill and a dedicated wood processing facility.

*While 127,338 RECs had been registered from wood waste as at 30 April 2003, non-plantation forestry was not used in respect of any of those RECs.*¹¹⁶

¹¹⁵ Renewable Energy Generators of Australia, submission 108, p7

¹¹⁶ Office of the Renewable Energy Regulator, submission 178, p 4

3.110 Some interested parties expressed concerns about the continued eligibility of native forest wastes. However, no specific example of adverse biodiversity or habitat impacts from MRET was raised during the Review.

Other biodiversity impacts

- 3.111 Some submissions¹¹⁷ expressed concern about the potential for wind energy projects to have an adverse impact on preservation of threatened species through wind turbines striking local or migratory bird and bat populations.
- 3.112 This issue was considered a risk, particularly in the case of large-scale projects. Other submissions noted that industry and governments were developing guidelines to provide for improved decision making. In this regard, the Victorian Government commented:

*In addition, Victoria supports, and is actively participating in, the work that is being done by the Commonwealth to develop a bird and bat strike protocol for collecting data to input into bird strike models for the assessment of wind farms. This tool will enhance the decision making process for the approval of wind energy projects.*¹¹⁸

3.113 The Review Panel concludes that no adverse biodiversity impacts have arisen from the operation of MRET to date.

Salinity mitigation

- 3.114 Changes to the Australian landscape have resulted in the growing problem of dryland salinity.
- 3.115 According to the National Land and Water Resources Audit—*the Australian Dryland Salinity Assessment 2000*:¹¹⁹
- around 5.7 million hectares in Australia are presently at risk or affected by dryland salinity, increasing to around 17 million hectares by 2050
 - some 20 000 km of major roads and 1600 km of railways are presently at high risk
 - up to 20 000 km of rivers and streams will be significantly salt affected by 2050
 - 630 000 hectares of remnant native vegetation and associated ecosystems are at risk, rising to 2 million hectares over the next 50 years
 - over 200 towns could suffer damage to infrastructure and other community assets from dryland salinity by 2050.

¹¹⁷ Tarwin Valley Coastal Guardians, submission 50; Prom Coast Guardian, submission 60; Mark Burfield, submission 97

¹¹⁸ Victorian Government, submission 173, p16

¹¹⁹ National Land and Water Resources Audit. 2001. *Australian Dryland Salinity Assessment 2000*. Canberra

- 3.116 A number of interested parties drew attention to the role that MRET could play towards land rehabilitation associated with dryland salinity mitigation.
- 3.117 The Commonwealth Scientific and Industrial Research Organisation's (CSIRO) Bioenergy Business Group¹²⁰ commented that deep-rooted energy crops have the potential to play a very significant role in combating dryland salinity. CSIRO argued that the ability to provide both economic and environmental benefits can help manage the restoration of the Australian landscape.
- 3.118 Energy crops were seen in the formulation of the legislation as making an important contribution to salinity mitigation outcomes:

The resource with the most potential appears to be biomass, from sources such as [...] and specifically grown energy crops.¹²¹

- 3.119 The regulations, in conjunction with the Act, set out provisions for energy crops, including a 'primary purpose' test:

an energy crop, including an agricultural or horticultural crop and its biomass by-products, must be grown as an energy source for the primary purpose of energy production.

- 3.120 However, no generator has yet been accredited under MRET to source biomass from approved energy crops. Submissions received on energy crops commented that current provisions, particularly the 'primary purpose' test, inhibit the establishment of financially viable energy crops.¹²²
- 3.121 Bioenergy Australia commented that:

Another form of energy crop that would currently appear to be ineligible under MRET would be phase tree crops to combat dryland salinity. This involves growing short rotation tree crops on a three to five cycle to drop the water table, then harvesting the entire crop (for biomass) to allow an agricultural crop to be grown for several years until a new phase crop of trees is required. Again, the Act would not allow such application, in spite of its environmental and economic merit.¹²³

¹²⁰ CSIRO Bioenergy Business Group, submission 135

¹²¹ Stone, Dr Sharman, MP Parliamentary Secretary to the Minister for the Environment and Heritage. 22 June 2000. Second Reading Speech Renewable Energy (Electricity) Bill 2000

¹²² Regulation 9 of the *Renewable Energy (Electricity) Regulation 2001*

¹²³ Bioenergy Australia, submission 138, pp3–4

- 3.122 This view was reinforced by Western Power¹²⁴ and the Western Australian Government¹²⁵ arguing that this exclusion is a barrier to maximising the sustainable management of Western Australia’s agricultural land as deep-rooted woody perennials, such as oil mallees, are more suited to the drier parts of the agricultural zone.
- 3.123 The Western Australian Government added that large-scale revegetation would only occur if the species being established have a commercial value to the landowner and revenue from biomass is a critical component of commerciality in species such as oil mallee.
- 3.124 The South Australian Government¹²⁶ also highlighted dryland salinity issues, estimating the cost of dryland salinity to that state as \$44.4 million in 2000, rising to \$91.1 million per annum by 2050. It sought an examination of eligibility of biomass from plantation tree crops planted purely or partly for the production of energy.
- 3.125 On the issue of the ‘primary purpose’ test for energy crops, Bioenergy Australia further commented:

Another problem with Regulation 9 is the requirement that an energy crop ‘must be grown as an energy source for the primary purpose of energy production’. An evolving paradigm for bioenergy is that of a biomass refinery, with a range of co-products including energy, fuels, biofertilisers, and chemicals. The relative proportions of products can be varied to meet market conditions. The primary purpose requirement in the current legislation provides an unworkable barrier to bioenergy facilities with multiple product streams.¹²⁷

- 3.126 The need to review the ‘primary purpose test’ for energy crops was broadly endorsed by the environmental groups in submissions from the Climate Action Network of Australia¹²⁸ and Greenpeace¹²⁹, both of which did not want the regulations to impede the development of environmentally beneficial forestry and crop projects.
- 3.127 The Review Panel concludes that the current treatment of biomass from energy crops is impeding the development of this source of renewable energy with its accompanying environmental benefits for salinity mitigation.

¹²⁴ Western Power, submission 70

¹²⁵ Western Australian Government, submission 238

¹²⁶ South Australian Government, submission 246 and 246a

¹²⁷ Bioenergy Australia, submission 138, p3

¹²⁸ Climate Action Network of Australia, submission 222

¹²⁹ Greenpeace Australia, submission 194

Weed control

- 3.128 In the development of MRET, it was recognised that biomass from non-native environmental weeds would be a source of eligible energy and help broader environmental objectives such as eradication and/or control of noxious weeds, particularly woody weed species.
- 3.129 In the Northern Territory, *mimosa pigra*¹³⁰ or prickly mimosa is a serious problem, forming dense, inaccessible and unproductive shrub lands that have serious impacts on river systems and grassland flood plains.
- 3.130 Attempts at eradication and/or control of the mimosa have involved spraying with defoliant and then uprooting the plants with bulldozers, with the resultant material then dried and set on fire.
- 3.131 A feasibility study is underway to investigate both a suitable location and a commercially viable technology. In conjunction with other biological control and eradication methods, *mimosa pigra* has the potential to fuel a renewable energy generator for at least 20 years.
- 3.132 Regulations governing the use of woody weed biomass material have been aimed at ensuring that non-native weed species are not further propagated but are eradicated or controlled. Regulation 8(3)(a) of the *Renewable Energy (Electricity) Regulations 2001* sets out the relevant provisions:

The wood waste must be either biomass:

- (i) produced from non-native environmental weed species; and*
- (ii) harvested for the control or eradication of the species, from a harvesting operation that is approved under relevant Commonwealth, State or Territory planning and approval processes*

- 3.133 To date, no renewable energy generator has been accredited under MRET using biomass from non-native environmental weeds as an eligible renewable energy source. However, in its submission, ORER advised:

While some available fuel sources and technologies are not yet participating in MRET, the ORER has discussed various proposals with proponents, which may in the future participate using [...] woody weeds (an existing wood waste subcategory).¹³¹

¹³⁰ Sourced from: AGO. 2003. *Renewable Energy Commercialisation in Australia*. Canberra

¹³¹ Office of the Renewable Energy Regulator, submission 178, p3

- 3.134 The Northern Territory Government confirms that planning is underway to construct such a generator:

*A 350 kW biomass power station (using the noxious weed Mimosa pigra as fuel) is programmed for completion early in 2004.*¹³²

- 3.135 The use of woody weed species as fuel for generating electricity drew a request for safeguards from the NT Greens:

*NT Greens recommend qualification of the application of declared weeds for biomass as being contingent on a broad strategy for eradication (as opposed to 'control' or 'management') and either cropping of suitable bio-energy species or, where appropriate, rehabilitation of the affected site.*¹³³

- 3.136 The Review Panel supports the current MRET Regulations which support the eradication of non-native environmental weeds by enabling biomass from approved weed eradication or control activities to be an eligible renewable energy source.

Waste management

- 3.137 Millions of tonnes of household waste are collected by local authorities, with the vast majority disposed of in landfills. Municipal solid waste (MSW) can be converted into energy by direct combustion, gasification or pyrolysis, or by natural anaerobic digestion in the landfill and sewage systems, known as biogas.
- 3.138 The MRET measure provides for eligible sources including the biomass components of MSW, landfill gas and sewage gas. In the development of MRET, inclusion of these two energy sources was considered an effective use of waste products that would also contribute to waste disposal, particularly in municipal areas.
- 3.139 There has been a significant increase in the number of generators using landfill gas, sewage gas and MSW. Accredited landfill gas generators are located across all Australian States and Territories, except Tasmania and the Northern Territory. According to ORER there are 40 accredited generators utilising these sources.¹³⁴
- 3.140 A number of submissions¹³⁵ commented on the environmental and economic benefits associated with renewable energy sourced from MSW, with BCSE commenting:

¹³² NT Government, submission 196, p3

¹³³ NT Greens, submission 120, p14

¹³⁴ Office of the Renewable Energy Regulator submission 178, p3, updated to 18 August 2003

¹³⁵ Melbourne Water, submission 113; Australian Business Council for Sustainable Energy, submission 165

Renewable energy has the potential to deliver a number of environmental benefits, including: reduction of odours; reduction in waste going to landfill where it can be used to produce energy.¹³⁶

- 3.141 Greenpeace and others¹³⁷ submitted that the inclusion of incineration of MSW as a renewable energy source serves to perpetuate current unsustainable waste production, reduces incentives for primary waste management strategies ('reduce, reuse, recycle'), and leads to increases in greenhouse gas emissions relative to other methods of waste treatment and management.
- 3.142 Some State governments are taking action to address environmental concerns associated with MSW. The Victorian Government noted:

There are some community concerns about the potential environmental impacts associated with the conversion of Municipal Solid Waste to energy. These include odour problems with the storage and management of waste before processing, and impacts to the air quality in the region. The Victorian Government is currently in the process of developing Waste to Energy Guidelines that will address these concerns.¹³⁸

- 3.143 Governments have developed waste management frameworks which contribute to reduced greenhouse impacts. The Review Panel considers that it is the responsibility of local authorities to manage these frameworks. MRET is not the appropriate vehicle to define the requirements.

Visual amenity and noise pollution

- 3.144 Other environmental issues that arose in submissions and consultations relate to concerns about reduced visual amenity and noise pollution created by wind turbines in local areas. Many of these submissions came from the coastal regions of south-eastern Victoria:

We need to consider very carefully what our coastal and rural landscapes will look like if the expansion of the wind power industry is encouraged. The decisions we make now will effect the heritage we pass on to future generations. We owe it to our children to leave our landscape in a better condition than we inherited it. [...] The incessant repetitive noise of the turbines has caused major disruption to the lives of those forced to live within close proximity.¹³⁹

¹³⁶ Business Council for Sustainable Energy, submission 165, p29

¹³⁷ Greenpeace Australia, submission 194; WA Dept of Environment, submission 207; NT Greens, submission 120; Environmental Defenders Office, submission 219

¹³⁸ Victorian Government, submission 173, p16

¹³⁹ John & Gillian Rees, submission 33; Ann Clarkson, submission 35; David Clarke, submission 39; Brian Thornborrow, submission 48; Mary Lucy, submission 54; Margaret Thornborrow, submission 68; Suellen Lee, submission 75; Patricia & Norman Broberg, submission 92; Mark Burfield, submission 97; John & Marion Minty, submission 150; Mary Bond & Robert O'Sullivan, submission 225

- 3.145 In its submission, the Australian Council of National Trusts was supportive of the objectives of MRET, while also concerned that the MRET would have an adverse impact on significant landscapes of national interest:

*Many significant landscapes have been threatened through proposed siting of Wind Turbine Generation (WTG) farms, especially along sensitive coastal areas in Victoria. Community resistance to these proposals has been exacerbated by a lack of appropriate planning and public consultative mechanisms. Many communities are now therefore hostile to any WTG proposals.*¹⁴⁰

- 3.146 In Australia, several State and Territory governments have released planning and assessment guidelines for renewable energy projects—particularly focussed on wind energy developments. These guidelines seek to facilitate renewable energy developments while minimising the potential for adverse impacts.
- 3.147 Regional and local planning is a matter for State, Territory and Local governments. Relevant public authorities and project developers are encouraged to respond to community concerns, including legitimate desires for appropriate consultation on proposed developments within their region.

Air quality

- 3.148 Several industry groups, including BCSE¹⁴¹ and Environment Business Australia¹⁴² identified other positive environmental impacts arising from the renewable energy facilities supported by MRET, including improved local air quality associated with reduced methane emissions and other local odours from urban landfills.
- 3.149 The Tasmanian Government argued that a proposed biomass plant in southern Tasmania utilising harvesting residues from RFA-covered native forests would reduce local air pollution:

*the efficiency of the combustion that occurs in an industrial boiler for renewable energy generation, compared to that which occurs in an open forest burn, leads to a significant reduction in the total emission of greenhouse and other pollutant gases. Specifically, the existing environmental impact arising from the open air burning of wood waste delivers a much less attractive environmental outcome' environmental objectives of the MRET legislation.*¹⁴³

¹⁴⁰ Australian Council of National Trusts, submission 127, p2

¹⁴¹ Australian Business Council for Sustainable Energy, submission 165

¹⁴² Environment Business Australia, submission 88

¹⁴³ Tasmanian Government, submission 229, p7

- 3.150 Overall, there was no evidence from submissions and consultations concerning adverse environmental impacts arising from the operation of MRET, noting concerns about potential impacts arising from use of waste materials from native forests.
- 3.151 Moreover MRET has the potential to offer environmental benefits through the development of projects that contribute to salinity mitigation and noxious weed eradication.