

Submission No: 123

Renewable Energy Generators Australia Ltd

ACN 089 010 248

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Jerome Brown
Inquiry Secretary
House of Representatives Standing Committee on Industry and Resources,
House of Representatives,
PO Box 6021,
Parliament House,
Canberra ACT 2600
ir.reps@aph.gov.au

Dear Mr Brown,

REGA Submission – House of Representatives Standing Committee on Industry and Resources Inquiry into the development of the non-fossil fuel energy industry in Australia

REGA has prepared the following submission in response to the Inquiry and trusts the attached submission provides useful input and looks forward to ongoing involvement in this process.

REGA is the peak industry association for the Australian renewable energy industry. REGA's members include generators, equipment suppliers, project developers and industry experts and our members are responsible for around 95% of the electricity generated from renewable sources in Australia each year.

REGA's vision is to bring renewable energy into the everyday life of all Australians. REGA does this by constructively working with all stakeholders to accelerate the growth of a vibrant and profitable renewable energy industry that makes a significant contribution to Australia's economic, social and environmental well being.

Key issues raised in this submission include:

- Renewable energy technologies will make a cost effective contribution to meeting the increasing energy demand along with the long term need to reduce greenhouse gas emissions from our increasing energy supply. The renewable energy industry is already making a significant contribution to this effort and to the national economy.

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- The cost of renewable energy technologies is declining and is expected to become cost convergent with incumbent generation technologies within a reasonable timeframe.
- A range of policy measures are essential to support the continued development and deployment of renewable energy technologies and all other clean energy technologies. These measures include capital support for research and development of emerging technologies and market mechanisms to ensure the deployment and commercialisation of least cost renewable energy technologies.
- An Emissions Trading Scheme (ETS) will play an important role in providing an incentive for the deployment of renewable energy technologies. An additional and ongoing renewable energy support measure is however necessary to continue to bridge the gap between the current energy price (including an emissions trading incentive) and the cost of delivering all forms of zero and low emissions technologies. Such a measure is compatible with ETS and should be phased out as the price of emissions permits increase and the costs of renewable technologies further converge with incumbent technologies.
- Australia's electricity grid is capable of sustaining a significantly greater portion of renewable energy technologies without any significant changes.
- The intermittency of some forms of renewable energy technology is easily countered by the complimentary nature of a portfolio of renewable energy technologies and resources installed and operating across Australia, supported by improving forecasting systems and generation sources such as hydro and gas which can be rapidly dispatched.

REGA also believes that it is important for the Inquiry to examine the policy incentives for the growth of renewable energy technologies that have been adopted internationally. Where clear, stable and ongoing policy incentives have been introduced, these nations have developed strong viable and export orientated industries that have made an important contribution to the national energy supply, energy security and climate change imperatives. Such nations include:

- China
- Denmark
- Spain
- Germany
- United States (California)
- Japan

While the costs of introducing policy incentives to reduce emissions from energy production are often the focus of debates surrounding their introduction, REGA believes that the benefits are often less clear to define, overlooked and that their importance is underestimated. REGA will be happy to provide further evidence of these examples and others if required by the Committee and believes that the opportunities for the export of renewable energy technologies in a world increasingly demanding clean energy are vast. Australia is well positioned to capitalise on this growing demand and has developed significant and world leading expertise, particularly in the following areas:

- Large scale solar concentrator technologies;
- Geothermal energy resource identification and utilisation;
- Solar photovoltaic production techniques;
- Water management in the production of hydroelectricity; and
- Wind energy project development and design in high wind regimes.

The attached submission details these matters further. REGA also advises the Inquiry that it is currently undertaking further analysis of the potential of renewable energy technologies, future cost predictions and the overall cost of an increased deployment of renewable energy in Australia. This analysis will be made available to the Committee in the coming weeks as soon as it comes available.

REGA would welcome the opportunity to discuss this most important issue further with the Inquiry and present evidence at formal hearings at the earliest possible opportunity. For further information, clarification or questions please contact Susan Jeanes, CEO at 08 8270 7227 or on 0419 833 556.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Peter Rae', with a stylized flourish at the end.

Hon Peter Rae AO
Chairman

GROWING ROLE AND DEMAND FOR RENEWABLE ENERGY

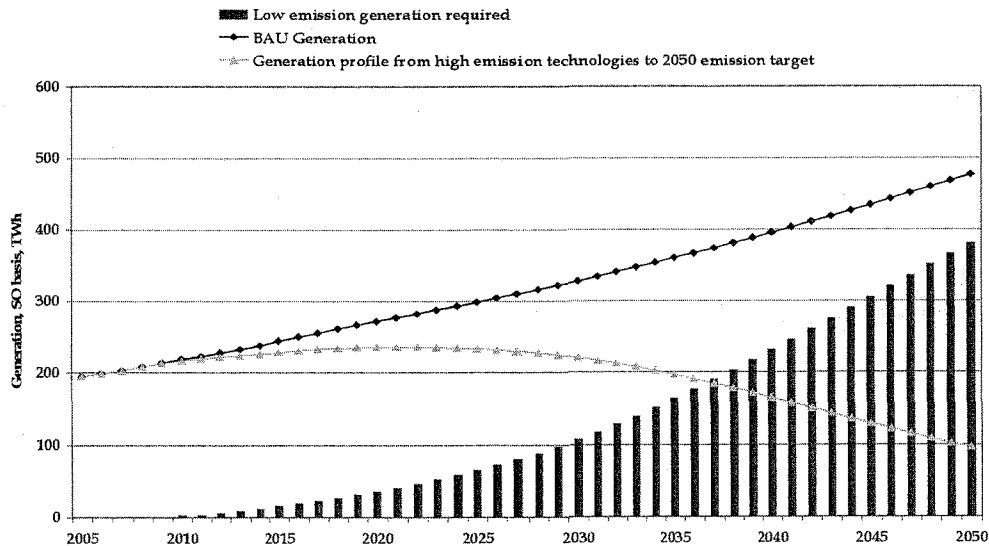
Countries in Europe and a number of states within North America have already adopted emission trading schemes demonstrating their leadership and a responsible contribution towards reducing emissions and future protection of the world's economy and environment.

The need for increasing the deployment of renewable energy technologies to deliver on these ambitious abatement targets has been recognised globally. REGA notes that some 41 countries have already established some form of domestic Renewables Portfolio Standard or Feed-in Policy measure¹. This includes:

- China
- California
- Spain
- Germany

This strong international demand is making a strong contributing to driving down costs for the deployment of renewable energy technologies as will be detailed in the next section of this submission.

Research commissioned by REGA last year from McLennan Magasanik Associates (MMA) has identified the level of clean energy that will be need to be deployed into the Australian electricity market to meet future energy demand and emissions reduction challenges out to 2050. This is illustrated in the following graph. The full report is available from the REGA website².



REGA believes that renewable energy technologies will be a cost effective part of the long term solution to reducing greenhouse gas emissions. The renewable energy industry is already making a significant contribution to the national economy.

Previous research commissioned by REGA from MMA found that:

¹ REN21 Global Status Report, 2006, <http://www.ren21.net/globalstatusreport/issueGroup.asp>

² <http://www.rega.com.au/Documents/Publications/J1281%20Final%20Report%20V3.pdf>

- Australia has excellent renewable resources and an innovative renewable energy industry that currently produces around 8% of the national electricity supply. The renewable energy industry is diverse and makes a significant contribution to the national economy.
- In producing electricity from a range of renewable resources, it provides around 15,000 direct and indirect jobs across Australia, has annual sales of nearly \$2 billion and has an estimated \$8 billion invested in assets that generate electricity. It is estimated that investment in renewable energy for the past five years has been approximately \$257 million per annum, with approximately \$369 million per annum to be invested over the next three years.
- The industry also makes a significant contribution to the important goals of diversity and security of energy supply. It does this without producing greenhouse gas emissions or degrading land and it does not compromise other environmental values such as air and water quality.

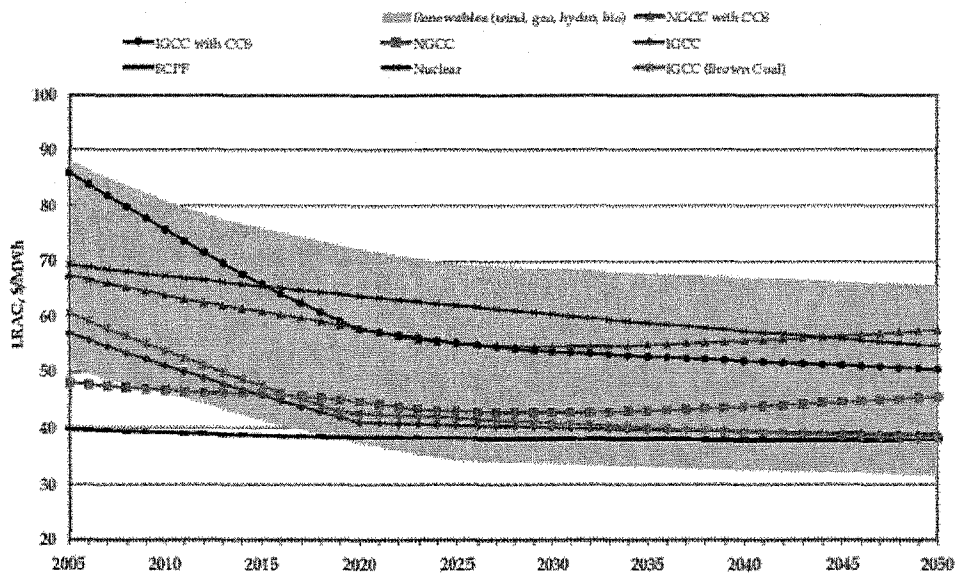
These are strong drivers for reducing the future costs of renewable energy technology.

DECLINING RENEWABLE ENERGY COSTS

Australia has a competitive advantage with some of the world's best renewable energy resource bases. Australia has a rich and vast amount of solar, wind, hydro, geothermal and wave resources throughout much of Australia.

Strong Government support and market mechanisms along with technology learning curves have already driven down the costs of deploying renewable energy technologies both in Australia and overseas. As the scale of renewable energy developments continues to grow and are accompanied by further technology development and learning, future costs for renewable energy technologies will continue to decrease. The following graph was developed for REGA by MMA using global energy cost databases to illustrate the comparative decreasing costs of generation from zero and low emission technologies.

Figure 3-7 - Total renewables cost envelope versus coal, gas and nuclear cost



The analysis currently being undertaken by REGA includes an assessment of the economic benefits of providing early support to the industry to enable 'learning by doing'. This is particularly important for emerging technologies and the range of technologies where the unique conditions in Australia make it more difficult to import this learning. This analysis will be provided to the Inquiry in the coming weeks as soon as it comes available.

POLICY MEASURES

The only constraint on the deployment of these technologies and a significant increase in the portion of renewable energy generation contributing to Australia's overall energy supply is a comprehensive policy suite that provides necessary incentive across the entire technology development lifecycle.

MRET has been very successful and led to the development and deployment of low emission energy generation technology making a valuable contribution toward Australia's abatement challenge while also establishing a competitive renewable energy export industry. The many benefits of such deployment to Australia's economy, jobs and investment, particularly through rural and regional Australia are outlined in the MMA report.

Although the costs for deployment of the range of renewable energy technologies is declining it will be sometime before many of these converge fully with incumbent fossil fuel based generation – even with the inclusion of externalities as will be achieved through the introduction of an ETS. The zero and low emission energy generation industry therefore requires policy mechanisms which can provide a strong revenue base that provides certainty of return on such investments. While a well designed ETS with a very strong emission abatement target is likely to contribute to this, a number of substantive potential design alternatives can ensure that the financial impediments to the deployment of zero and low emission generation are overcome. This or a similar scheme is an essential component of the policy framework to drive the required 'learning by doing'.

REGA strongly supports the introduction of domestic ETS in Australia, irrespective of what occurs globally. While costs for deployment of low emission technologies are declining, even with a stringent target and strong carbon price, low emission technologies will continue to require some form of industry support until they reach economies of scale and cost competitiveness with incumbent fossil fuel technologies. These mechanisms can coexist effectively and efficiently with an ETS.

It is of increasing concern and evidence that the cost of delaying action is far greater than any short term costs of establishing a carbon framework and providing support mechanisms necessary to continue the deployment of low emission generation technology. This will ensure long term least cost abatement.

GRID INTEGRATION

Internationally many electricity grids have already sustaining significant levels of renewable energy with Denmark, for example, already has 20% wind energy and plans for even further increases.

REGA is actively working with NEMMCO to continue to develop the capacity of the Australian electricity grid to support future growths in renewable energy deployment. However, such constraints are far from being reached.

Analysis has shown that with no major changes the Australian electricity grid can also sustain up to 20% wind energy. Improved forecasting and the ability to limit all generation at times of system stress has the potential to increase this even further.

Historically the electricity system in Australia has developed around very large generators located on large coal fields with huge transmission lines connecting these to the city load centres. The development of renewable energy generation spread geographically across the country drawing on a number of different fuel sources will provide Australia with a more secure and diverse energy supply system.

OVERCOMING INTERMITTENCY - A PORTFOLIO OF RENEWABLES

The output from some forms of renewable energy resource is intermittent in nature. Sources such as wind, solar, and ocean are inherently intermittent, while the output from sources such as geothermal, bioenergy and hydro power can be more easily controlled and can supply energy on demand. A portfolio of these technologies can readily overcome any intermittency challenges presented by any one technology or generator. Australia's large resources covering a range of technologies such as hydro and gas effectively provide vast storage capacity and can be dispatched rapidly to ensure a secure energy supply.

The issue of intermittency has been investigated in depth within the context of the NEM and a number of changes to the way the market treats this generation are being implemented. A major government funded project is underway to provide more accurate forecasts of wind generation output. It is anticipated that when the need arises this can be adapted to include other forms of intermittent generation. Rules are being implemented to ensure that the market operators can control the output of windfarms in order to maintain a secure system and not overload transmission lines.

Further, there is significant global investment in the development of storage technology to assist further in the management of intermittency.