REGA Submission to the

Joint Standing Committee on Treaties

Inquiry into the Kyoto Protocol

SEPTEMBER 2000

Renewable Energy Generators Australia Ltd

Executive Summary

REGA is the acronym for the Renewable Energy Generators of Australia, an industry body representing the major generators of renewable energy in Australia. The body represents the existing generators of 10.7% of Australia's electricity generation.

REGA supports current government initiatives to abate greenhouse emissions, encourage renewable energy and establish a framework for trading in permits and carbon credits. REGA is particularly encouraged by measures that will lead to a 2 percent increase in the contribution of renewable energy to Australia's supply mix by the year 2010. REGA would seek to have early abatement initiatives credited in any future commitments under the Kyoto Protocol should Australia ratify the agreement.

Ratification

The debates on the Renewable Energy (Electricity) Bill 2000 and the Renewable Energy (Electricity) (Charge) Bill 2000 showed that there is broad parliamentary acceptance of the threat that global warming poses to the current economic, environmental and social structures of all nations. REGA supports ratification of the Kyoto Protocol.

Greenhouse gas emissions responsible for global warming are also linked to pollution of urban areas, which results in significant human and financial costs to the community.

The renewable energy industry is demonstrably growing and must be regarded as a key element of the "new economy". This focuses economic activity on sustainability and natural system capacity.

The increasing cost of emissions in the next decade and beyond will increase the viability of the renewable energy industry for mass volume energy production across the nation.

Australia's international competitiveness will not be diminished by ratification of the Kyoto Protocol, but rather will be enhanced by becoming a leading figure in one industry sector of the "new economy".

Economic growth and fossil fuel emission increases are not mutually dependent. The success of Australia's future economic standing depends on the decoupling of these two parameters and the linking of economic growth with low greenhouse gas energy production.

The regional manufacturing industries that can be developed by renewable energy infrastructure provides a mechanism for regional areas to remove their dependence on government assistance.

Global Warming

Scientific and political opinion is increasingly convinced of the veracity of global warming and the urgent need to respond quickly and appropriately. The anthropogenic influence on climate change is discernible and mitigation must focus on human activities that result in greenhouse gas emissions.

There is an emphasis on renewable energy as a major component of the initiatives that will form the solution to global warming, particularly in developing countries.

Funding by the Commonwealth through the Australian Greenhouse Office provides an appropriate instrument to develop programs and strategies to mitigate Australia's greenhouse liability.

REGA supports the programs implemented by the Australian Greenhouse Office, is encouraged by political measures such as the 2% Mandated Renewables Measure and urges active Australian participation at the forthcoming sixth session of the Conference of the Parties (COP 6) Conference in November 2000 in The Hague, the Netherlands. REGA proposes to participate at this conference.

Definitions

Each of the terms is defined in the text and REGA's position on each is described. REGA would like to emphasise that:

- grandfathering based on historic emission levels is not supported;
- REGA supports the development of an emission trading system based on credits, permits and renewable energy certificates;
- early greenhouse action and sequestration opportunities should be recognised; and
- land management is a critical component of any greenhouse response strategy and will provide flow-on benefits for catchment and environmental management.

Approaches

The renewable energy industry is uniquely positioned to mitigate Australia's liability whilst providing significant economic, employment and environmental benefits.

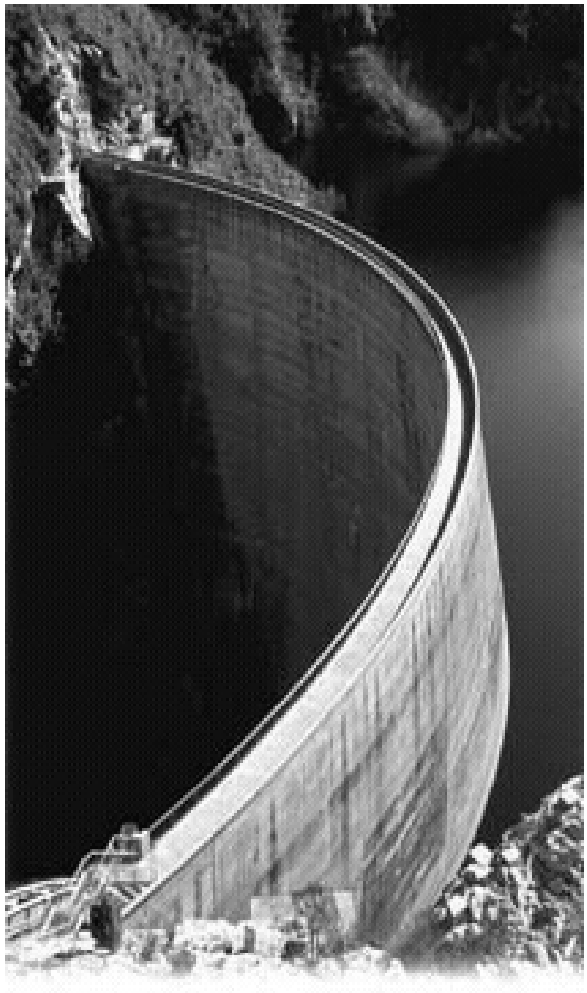
A carbon tax is a possible approach, which should be kept under review while market-based measures such as mandated renewables are implemented.

An emission trading program will allow the full environmental cost of energy production to be reflected in the market price and will increasingly improve the viability of renewable energy technology with the resultant benefit to Australia. REGA supports an emission trading program congruent with international systems. This should be developed in the context of the world movement into the introduction of such a system.

REGA broadly supports the flexibility mechanisms of the Kyoto Protocol and their integration into an international emission trading program.

The renewable energy industry is well placed mitigate Australia's greenhouse liability and will position itself to be able to respond quickly to international markets as a "new economy".

At the Year 2000 World Economic Forum (Davos, Switzerland) major international corporations and world leaders agreed that sustainable development is the most significant policy issue facing corporations worldwide and represents the greatest opportunity for growth. As well, they agreed that the renewable energy industry represents one of the strongest growing and sustainable sectors of the new global economy with growth rates commensurate with or greater than those for the information economy.



1 Introduction

The goal of the Joint Standing Committee on Treaties Inquiry into the Kyoto protocol is to "inquire into and report on whether ratification of the Kyoto Protocol on climate change is in Australia's national interest". REGA has prepared this submission in response to the Committee on Treaties Inquiry into the Kyoto protocol.

The Kyoto Protocol is an international treaty under which developed countries (listed in Annex B of the protocol) have agreed to limit net greenhouse gas emissions. Many countries, including Australia have signed the treaty but for the treaty to come into force, it must be ratified by at least 55 parties to the Convention, that account for at least 55% of the total 1990 carbon dioxide emissions of developed (Annex B) countries. This is hoped to be achieved by November 2000. Developing countries who are not listed under Annex B of the Protocol, and who consequently do not have emission reduction targets for the first committal period, are expected to have reduction targets for the second committal period.

REGA is the acronym for the Renewable Energy Generators of Australia, an industry body representing the major generators of renewable energy in Australia. The body represents the existing generators of 10.7% of Australia's electricity generation, including hydro (with up to 100 years of operation), bagasse (biomass generation from sugar cane waste), co-generation and the new but rapidly expanding wind generation.

REGA supports current government initiatives to abate greenhouse emissions, encourage renewable energy and establish a framework for trading in permits and carbon credits. It is particularly encouraged by measures that will lead to a 2 percent increase in the contribution of renewable energy to Australia's supply mix by the year 2010. We consider that climate change is not only a serious threat to sustainable development but also to the world as we know it (eg the Pacific Islands, the Great Barrier Reef, etc).

REGA has been active in encouraging the substitution of fossil fuels with renewable energy alternatives.

REGA would seek to have early abatement initiatives credited in any future commitments under the Kyoto Protocol should Australia ratify the agreement.

This document is written in four sections, which address each of the terms of reference of the Joint Standing Committee on Treaties Inquiry.

The submission is within the parameters and expertise of REGA's membership and is primarily focussed on the electricity supply industry. Any discussion that relates to other industries is noted at the time.

2 Ratification Of The Kyoto Protocol

Terms of Reference: *"The implications for Australia proceeding or not proceeding to ratifying the Kyoto Protocol and meeting its target emissions levels by 2008 with regard to anticipated and/or predicted economic, environmental and social outcomes both nationally and in specific regional areas."*

REGA believes that global warming is real, and that developed countries should demonstrate leadership and commitment to reducing greenhouse gas emissions. All of Australia's major political parties have recognised that there is a need to respond to the challenge of global warming, and there is broad parliamentary acceptance to minimise climate change. A failure to grasp this as an opportunity to demonstrate best practice in energy efficiency and in renewable energy development has the potential to damage Australia's credibility as a regional power in the South West Pacific and with our Asian trading partners.

REGA supports the Federal Government target of limiting to 108 % of the 1990 level of greenhouse emissions by the year 2010.

There are also social benefits from reducing greenhouse emissions. For example, one of the wider benefits of reducing pollution associated with the burning of fossil fuels is the health aspect of encouraging clean air in cities. In the USA, programs have been successfully introduced to curb emissions with "clean cities" campaigns. The incidence of asthma and other respiratory diseases has fallen. These side benefits of ratifying the protocol should not be ignored in the Committee's deliberations. Information from the Asthma Foundation shows that the cost of asthma to Australia is in the range of $580-720 million per year (1992 figures). This is made up of $320 million in direct medical costs and $260-400 million in productivity losses. Two million people in Australia are affected, which includes 1 in 4 children. 685 people die from asthma-related diseases each year, 60% of which are preventable.

New Economy/Sustainable Economy

The "new economy" is a term that is typically used by the popular press to describe the business of information trading. Internet companies are seen to be the main players in this new economy. However, it is clear that the new economy is much more than merely knowledge transfer through electronic media. Rather, the connectedness and rapid communication facilitated by the Internet has allowed the development of new ways of doing business. In addition, globalisation, and environmental and social challenges have required a new approach. The new mode of operation of industry and business that is developing in response to these challenges and opportunities, defines the new economy.

A new economy business is pro-change and values networking, customisation, niche production and high-risk innovation. This contrasts to the traditional, change averse organisational principles for industrial age businesses of hierarchies, standardisation, mass production and low risk.

Sustainability is also a core principle of a new economy business. Under this principle, attainment of economic growth is based on a system:

- whose structure respects the limits and carrying capacity of natural systems;
- powered by renewable energy from fuels such as hydro, solar, wind and hydrogen;
- that recycles and reuses its throughput;
- that is founded on a partnership between business, government and the community;
- that places quality over quantity and craft over expediency; and
- that is able to integrate feedback into its movement so that the real state of the environment becomes as important as the bottom line.

Renewable energy industries will be key participants in the new economy. Strong growth in these high-tech, sustainable industries will also help the international community meet the challenges of rising atmospheric CO_2 levels. The scale of this challenge is clearly indicated by the emissions caps set under the Kyoto Protocol. The inevitable, increasing cost of carbon emissions will guarantee the long term viability of renewable energy.

The need for the international community to respond to the reality of the greenhouse effect and to emission reduction targets under the Kyoto Protocol are key factors driving significant investment in renewable energy world-wide. The wind power industry is now booming. In 1999, an estimated 3 900 MW of wind turbines were installed around the world, which is 65% higher than the year before (source: *Trends in Renewable Energy* – Canadian Association for Renewable Energies).

Following the Federal Government announcement in November 1999 of the Renewable Energy Certificates, it has been shown that in Australia alone, wind farms to a combined capacity of over 300 MW are currently in an advanced stage of investigation and development. In addition, on the basis of the market share of wind generation overseas, the Australian Wind Energy Association predicts that at least 1 000 MW of wind generation systems will be installed by 2010. With the successful implementation of appropriate incentives and programs by government to encourage development of Australia's excellent wind resources, such as the proposed 2% renewable energy target now before parliament, this figure could become much higher.

Australia is well placed to become a key participant in the new economy and regional areas can reap the benefits of the burgeoning renewable energy market, in both the energy production and manufacturing sectors.

Renewable Energy Industry Viability

The renewable energy industry is developing at present in response to community demands for sustainable development. The viability in many areas is limited however, due to the low value on emissions. This is a consequence of the full

environmental cost of production not being reflected in the market price of fossil fuel generation. As the cost of emissions permits rises, the viability of renewable energy will increase and this will create the manufacturing impetus needed desperately in many regional areas.

Ratifying the Kyoto Protocol would also provide both an incentive and the opportunity to examine fuel-switching options in those pockets of industry currently using industrial diesel fuel or coal as an energy source. With the right market and price signals, fuel substitution could be an attractive proposition and reductions in greenhouse emissions could be achieved.

As new industries develop to supply renewable energy technologies, employment is created. Continuation of R&D support and programs sponsored by the Australian Greenhouse Office (AGO) to promote the uptake of renewable energy technologies is important in this context. They have the potential to stimulate innovation and can provide diversification opportunities for existing industries. For Australia the economic benefits from promotion of an accelerated development of the renewable energy industry are:

- it is a growth industry - more than 300MW of wind farm generation projects are either in operation, planned or under construction. The mandated 2% renewables measure is central to these developments;
- it will lead to the creation of new manufacturing capability and employment opportunities linked to the new economy;
- it provides encouragement for new investment in energy efficiency and new technology leading to increased international competitiveness;
- it has a capacity to reduce out-migration of skilled personnel from regional areas;
- it promotes triple bottom line benefits, which integrate financial considerations with environmental and social concerns in development planning leading to sustainable outcomes;

- it encourages investment in carbon sinks with land and catchment management benefits; and
- it provides export opportunities for Australian developed technology and consultancy services in Asia and Pacific regions in keeping with the technology transfer aims of the Kyoto Protocol.

For example we are aware that Stanwell (a government owned Queensland generator) is diversifying and actively working on wind farms at Ravenshoe and Toora in Victoria, biomass, and a mini hydro project at Koombooloomba Dam on the Tully River.

The 300 MW of wind developments, together with bagasse, are inherently destined to bring significant economic benefits to rural and regional Australia. However the full extent of these developments depend upon the introduction of the 2% Mandated Renewables Measure.

International Competitiveness

For Australia to remain internationally competitive we must move from a resource based economy, with declining terms of trade and employment opportunity, to a knowledge-based, value-added, internationally competitive economy. The characteristics of this "new economy" are that it is global, and operates sustainably (as described previously. It is a new way of doing business. The Kyoto agreement is a unique chance to develop a new industry and to be the centre of excellence of Services and Supplies for the emerging renewable market.

The development of a competitive industry, focus on export of plant and equipment for renewable energy generation facilities is possible only with the support from a strong domestic market. Without any domestic credentials, we may not be taken seriously by the international community. It is the Government's responsibility to provide the economic environment for the industry to respond to the opportunity that the ratification of the Kyoto Protocol is going to provide. The down side of not responding is to lose out against the West European and US based market players, resulting in additional imports of said plant and equipment (and adding additional burden to our trade balance).

Unfortunately, a common attitude in the energy-intensive sectors of the Australian economy is that the international competitiveness of our national industries will decline due to ratification of the Kyoto Protocol. It is thought that the introduction of an emission trading program or other carbon measures will add to the cost of energy use. This is distinctly an "old economy" view. As the "new economy" forges ahead, Australia's international competitiveness will only be sustained, and probably enhanced, by maximising our renewable energy potential because it is a significant international growth industry and is part of the new economy. Indeed, it has been reported that between 1995 and 1998 the wind energy industry alone grew 27.5% representing 4 893 MW of additional installed capacity (ACRE, June 2000, National Power Forum). Wind energy is also credited with creating 27% more jobs per kWh than coal and 66% more than gas. Ratification of the Kyoto Protocol will add further

impetus for growth in this dynamic sector, and Australia should position itself to participate if it is to realise the employment and investment benefits.

Vestas Assembly Plant, Ringkobing Denmark

Economic Growth

There is a perception amongst many "old economies" that economic growth and increased fossil fuel emissions are inextricably linked. This is inaccurate and dismisses the potential for renewable energy to boost regional and national economies. The ability of existing renewable energy sources such as hydro-electric power and potential mass volume sources such as wind farms can decouple economic growth from fossil fuel emissions. A growth in low greenhouse gas energy production will not only boost manufacturing economies but provide opportunities for new industries to use renewable energy for their power supply.

This link between economic growth and low greenhouse gas energy production has the ability to sustain a "new economy" in an era of globalisation. International markets open up for knowledge and technology products that are linked to low greenhouse gas production.

Manufacturing

A spin-off from promoting the accelerated development of the renewable energy industry is that it has the potential to:

- create new manufacturing capability;
- support the further expansion of a knowledge economy; and
- reduce the "brain drain" – the out-migration that regional areas suffer as their young and better educated people move elsewhere for satisfying employment.

For instance, Pacific Hydro has a local manufacturing component in its Codrington wind farm project while Hydro Tasmania is in the process of letting the contracts for the supply of equipment for the first stage of its anticipated 1 000 MW development. The contracts will have associated local manufacture and technology transfer provisions and will tap into skills already well developed in the Tasmanian fibreglass industry. This has the important implications in that it can wean regional areas, which are often heavily dependent on government assistance, from the necessity of looking to governmental assistance for support.

Summary

In summary, the implementation of the climate change amelioration measures will, we believe, bring a combination of taxpayer, industry and consumer contributions to the cost of achievement of the targets.

The expenditure of those financial contributions will bring economic and social benefits to the particular advancement of rural and regional Australia while also bringing major environmental benefits to urban Australia and to the health and lifestyle of the nation.

In national economic terms, we see enhanced benefit from the growth in the export of both equipment and expert consulting and construction services to the Asian and Western Pacific regions of the world into which, we believe, Australia can competitively supply.

3 Global Warming

Terms of Reference: *"The veracity of conflicting current scientific theories on global warming and any solutions proposed for it."*

The recognition of the threat of climate change is now universal and has reached the highest levels of government. For example, E3 International is a management consultancy and environmental think-tank dedicated to sustainable development. They reported in their Sustainability Update on 15th August 2000, that the Group of Eight (G8) major powers have promised concerted action to slow global warming through the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The G8 powers are strongly committed to close co-operation among themselves and with developing countries to resolve as soon as possible early entry into force of the Kyoto Protocol including undertaking strong domestic actions and supplementary flexibility mechanisms. The G8 leaders put particular emphasis on renewable energy as a solution to global warming and are looking to encourage the use of renewables in developing countries.

Recently (8th and 15th August 2000) a public symposia on "Global Warming – its Impacts and Solutions" was held in Hobart. The symposia was sponsored by a wide variety of scientific and government organisations such as: The Royal Society of Tasmania, CSIRO Marine Research, Australian Greenhouse Office, University Of Tasmania and the Australian Marine Science Association. It was made clear at the symposia that the clear and emphatic balance of evidence suggests a discernible human influence on climate, and linked observed climate changes to the greenhouse effect.

This supports the work to date of the Intergovernmental Panel on Climate Change (IPCC), which was set up under the United Nations Framework Convention on Climate Change (UNFCCC). The IPCC reports at intervals on the current status of climate, global warming, and other climatic and atmospheric parameters.

The Australian Greenhouse Office has also asserted that global warming is a reality and is influenced by anthropogenic greenhouse gas emissions.

It can therefore be shown that scientists from the CSIRO, Australian Antarctic Division, a wide cross section of university research institutions, and elsewhere, have reached the stage where they are no longer in any doubt about the role of gas emissions. In particular, carbon dioxide and methane are being highlighted in the measured increase in global warming, which is proceeding at a rapidly increasing rate.

These are no longer matters of alarmist cries or a "greenie plot" – cautious scientists are now in a position to draw conclusions. The questions now are, firstly, what we do to reverse the trend while there is still time and secondly, who pays and how is that to be achieved on an equitable and sustainable basis?

The Council Of Australian Governments (COAG) has accepted that the principles of:

- equity;
- cost effectiveness; and
- multiple benefits

must apply to the measures to be taken in Australia.

A total of $1 billion has been committed for expenditure by the Commonwealth over the next five years. This is the contribution by the taxpayers in general. Other contributions can be expected to come from community sectors such as those who create the relevant gas emissions and those who derive economic benefit from the activity that has caused those emissions.

In the national arena it is our view that the Australian Greenhouse Office (AGO) is an appropriate instrument and starting point to address global warming and REGA supports the AGO's measures and recommendations to date. REGA supports the Greenhouse Challenge program. Emissions Trading is one element of the National Greenhouse Response Strategy, which we particularly endorse and are keen to participate in. We acknowledge the final form of an Emissions Trading program is not yet developed but wish to contribute to its continuing development and implementation.

We believe that everybody is responsible for slowing the global warming trend. We feel that reduction of greenhouse gas emissions is an effective way of offsetting the anthropogenic factors responsible for climate change. We believe the introduction of renewable energy sources into the electricity market is one of many possible appropriate responses in markets where emission-based energy dominate.

Recommendations

REGA strongly supports the view of all four major political parties in Australia and the scientific community that global warming and climate change is a reality and needs urgent and strong action to reduce the impacts and threats. The broad parliamentary acceptance of global warming should provide an ideal platform to launch a successful national mitigation strategy.

In addition, current scientific opinion is increasingly of the view that global warming is occurring and that the pace of such change is accelerating. We therefore urge active Australian participation at the forthcoming sixth session of the Conference of the Parties (COP 6) Conference in November 2000 in The Hague, the Netherlands.

4 Definitions and Criteria

Terms of Reference: *"What definitions and criteria Australia should develop and actively pursue in its national interest with regards to: grandfathering, trading credits, carbon credits, sequestration, revegetation, land management, and definitions (eg Kyoto forest)."*

Grandfathering

This term is taken to mean the allocation or permission to emit greenhouse gasses is based on the historical level of emissions from a facility.

From REGA's perspective this approach has serious shortcomings and is not supported for the following reasons:

- it does nothing to discourage an emission culture in the power supply or energy intensive sectors of the economy;
- it disadvantages generators who are clean;
- new entrants to the industry are discouraged together with new investment;
- it has the potential to limit an active market in trading permits; and
- it is incongruous in the context of discussions and proposals for an international carbon trading system.

Basing allocations on generation capacity or average energy output has recently softened the grandfathering concept. These more recent versions of grandfathering are more agreeable to REGA and are more congruous with an emission reduction target strategy. However many of the shortcomings listed above still persist.

Trading Credits

Trading credits is an emission trading program that is based on the allocation of permits and credits that are tradeable in a market.

It is REGA's view that any emission trading program must credit early greenhouse action and that such a program should incorporate both permits to emit greenhouse gasses and credits/certificates for renewable energy sources. Consistent with the rules being established under the Kyoto Protocol, each permit would be defined as an allowance to emit an amount of greenhouse gas equivalent to one tonne of carbon dioxide (CO_2) from a facility, with the permit held by the emitter. Likewise, renewable energy certificates should be based on renewable energy generation assets that deliver renewable electricity to the grid. Each certificate would be equal or equivalent to 1MWh of renewable generation measured at an agreed point. The owner of the asset will hold the certificates.

Carbon Credits

Carbon credits is an aspect of an emissions trading program that provides credits for the ability to sink or store carbon that are tradeable in an active market.

REGA would like to see a carbon credit system incorporated in any future emissions trading program, but not at the expense of diminishing early greenhouse action or renewable energy industry development. We advocate a system where credits can be gained by a variety of measures and activities to offset the need to purchase emission permits for greenhouse gas emitters.

Sequestration

Sequestration is the activity of storing or sinking carbon that leads to the granting of carbon credits. Such activities can be the creation of forested areas, revegetation of degraded land and technical schemes for underground storage of carbon.

REGA, while not planning to be active in sequestration activities, believes there could be considerable benefits to the economy through forestry expansion leading to plantation establishment and the creation of carbon sinks. In June 1998, Pacific Power entered into Australia's first trade in greenhouse gas emissions. The transaction between Pacific Power and the NSW Forest Service involved the purchase of the carbon rights for the financial year 1999-2000 to 1000 hectares of eucalypt plantation. The amount of carbon sequestered is 54 000 tonnes. Delta Electricity are also reported to be planting 100 000 trees to improve land management practices by the company. Thus encouragement of revegetation in degraded areas is an additional opportunity in the sequestration process.

Revegetation

REGA is aware that some organisations have already committed several million dollars to revegetation programs. These revegetation initiatives were not designed to maximise carbon uptake but might be considered eligible under some future compensatory mechanism incorporating carbon credits. A compensatory mechanism also has the potential to provide financial support to a number of voluntary community groups such as Landcare, Coast Care and others actively participating in revegetation initiatives.

REGA considers that extensive revegetation programs are a fundamental component in contributing to Australia meeting its Kyoto targets, as land clearing has been a significant contributor to greenhouse emissions in the past. Indeed, a significant commitment by the Commonwealth to facilitating activities to address broad scale land degradation has the potential to allow other energy intensive sectors to emit above current target levels.

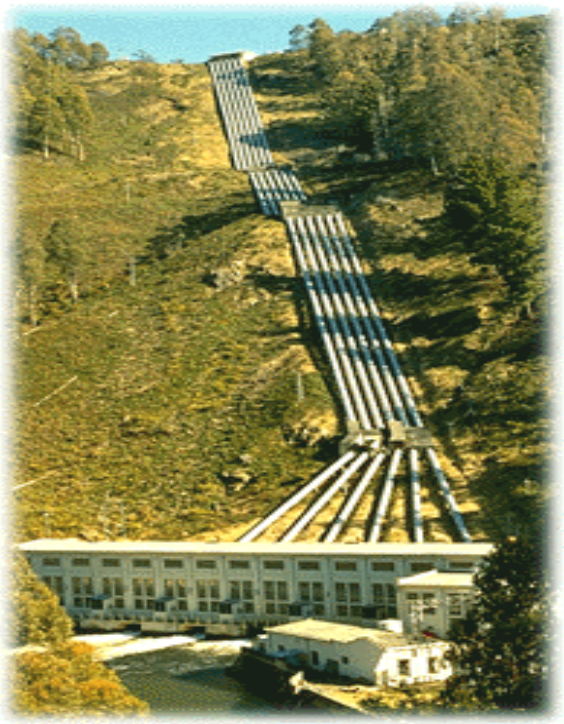
Land Management

The issue of land management is a critical component of any consideration of managing Australia's response to the threat of climate change. We would also draw to the committees' attention that nationally the rate of land clearing has declined since 1990 and that the rate of revegetation, reforestation and plantation development has increased. Giving additional monetary value to trees for their uptake of carbon dioxide has the potential to accelerate planting programs.

Definitions

REGA supports the definition of Kyoto Forests as the change in carbon uptake/emission since 1990. It would seek to have recognition of post 1990 plantations along with areas that have been reforested credited in any trading scheme. This would provide security and encouragement for further industry investment, including the attraction of investors from overseas.

Further, REGA would support measures, which actively discouraged land clearing for the reasons noted above. Economic instruments as well as regulatory approaches should be considered.



5 Approaches To Industry Regulation

Terms of Reference: *"The economic, environmental and social implications of a punitive approach to any domestic regulation of industry including such proposals as a carbon tax and an incentive-based approach."*

REGA recognises that there are a number of schemes proposed to curtail the increase in emission of greenhouse gasses – some punitive and others which provide incentives. Many of these instruments are in their infancy and have potential for positive and negative effects on business and the wider economy. The methods range from punitive measures such as carbon taxes, through to hybrid, regulatory schemes and market driven incentives. We believe that the advantages and disadvantages of each must be weighed against their ability to effectively drive down the growth in emissions.

It is our view that regardless of what method or combination of methods is used, the renewable energy industry is uniquely positioned to mitigate Australia's liability whilst providing significant economic, employment and environmental benefits. Any framework agreement to curb emissions must ensure that regions, which have the ability to lead in the uptake of renewable technologies, are encouraged to do so.

Punitive Measures – Carbon Tax

A carbon tax is a possible approach, which should be kept under review while market-based measures such as mandated renewables are implemented.

Disadvantages of this method include a lack of control in the marketplace, with the only real incentive for existing generators being avoidance of a penalty and, probably most significantly, the issue of how the revenue from the tax is to be dealt with. Generators with existing infrastructure would likely argue that the revenue could be used to offset business taxes or assist with greenhouse gas abatement measures in preference to being used as consolidated revenue.

Emissions Trading

The aim of any emissions trading scheme is to provide an economic instrument to drive greenhouse gas emissions down to target levels. Emissions trading will be likely to affect further thermal generation by requiring greenhouse polluters to surrender a permit for each tonne of CO_2 equivalent emitted. National governments would allocate permits to resident companies or markets. No greenhouse emission would be legal without permits to pollute.

Permits are traded in an open market. Polluters either buy sufficient permits or reduce their emissions to meet the number of permits they have. Permits would be traded internationally and certain mechanisms have been developed to facilitate international activities (ie Joint Implementation and Clean Development Mechanism).

One of the benefits of the emissions trading proposal, and the view endorsed by REGA, is that it will make production costs of energy reflect the full environmental cost of production. This is something that hydro power and other renewable energy sources have had to contend with previously to some extent and we support the full cost being brought to the marketplace.

Joint Implementation and Clean Development Mechanism

Under these mechanisms, investing countries will be able to claim credits for greenhouse gas abatement in other countries, as part of fulfilling international commitments, and minimising the cost of achieving their own commitments.

The rationale for international collaborative projects is twofold. Firstly, it stimulates investment in host countries and the spread of technical knowledge and capabilities relating to emissions reduction from investing countries to host countries. Secondly, it may provide investing countries with lower cost opportunities to reduce emissions than are available within their own borders.

REGA broadly supports the flexibility mechanisms such as Joint Implementation and Clean Development Mechanism and recognises the significant advantages for Australia and its regional areas in pursuing these mechanisms. Integration of these mechanisms into an emissions trading program would enhance the active market and provide a platform for maintaining an international trading system.

Renewable Energy Industry

The promotion of a renewable energy industry has the ability to provide a kick start to immature businesses and to take advantage of a sector which is growing rapidly. Internationally, renewable energy typically provides more jobs than the fossil fuel industries. For example, wind energy is cited as creating 27% more jobs per kWh than coal and 66% more than gas. Thus a 50 MW wind farm is expected to create 40

full time jobs plus an expansion of jobs in local industries. The European Union has thus predicted that 500 000 new jobs will be created if it meets its Kyoto target through doubling the renewable energy penetration rate from 6% to 12% of energy supply by 2010. Worldwide energy capacity installations have surged from 2000 MW in 1990 to 13 400 MW at the end of 1999 – a six and a half fold increase (Carrie Sonneborn, National Power Forum, 2000). In NSW, the renewable energy industry is already out performing the IT industry according to a 1999 survey. The industry was growing at 20% compared to the IT industries 17% (ACRE 1999 p 28).

As can be seen from the above figures, a failure to grasp this opportunity has enormous economic and social implications, particularly at a regional level where traditional resource based industry is in decline. The concern is that unless the renewable energy industry is given due recognition as a growth sector, market and employment opportunities will be lost to the nation. The renewable energy industry is environmentally benign and encourages adoption of the knowledge-based approach to business development.

It is our view that Australia is well positioned to take advantage of the burgeoning interest in renewable technologies. Further innovation in these areas might be expected given the strength of community support and business incentive schemes. The efforts of companies such as:

- Primergy (manufacturing wind turbines in Gippsland);
- Macquarie Generation and Stanwell (biomass co-firing in regional areas of NSW and Queensland);
- Hydro Tasmania (mini-Hydro and wind farms in regional Tasmania); and
- Western Power (wind farms in regional WA)

show that a willingness to embrace a new renewable future is taking root and needs the correct signals and impetus from government policy and international mechanisms.

At the Year 2000 World Economic Forum (Davos, Switzerland) major international corporations and world leaders agreed that sustainable development is the most significant policy issue facing corporations worldwide and represents the greatest opportunity for growth. As well, they agreed that the renewable energy industry represents one of the strongest growing and sustainable sectors of the new global economy with growth rates commensurate with or greater than those for the information economy.

6 Conclusion

REGA favours an emissions trading program that is congruent with any international system developed. In addition, the benefits to Australia of involvement in Joint Implementation and Clean Development Mechanism programs can be significant, and the export potential of renewable energy technology and products should not be underestimated. This makes it more important to have an emissions trading program in Australia that is congruent with whatever international system develops.

Australia should ratify the Kyoto Protocol and engage in mechanisms to reduce greenhouse gas emissions. These mechanisms include (but are not restricted to):

- emissions trading program;
- joint implementation;
- clean development mechanism; and
- 2% mandated renewables measure.

The Parliament should, we submit, continue to support the efforts of the AGO, especially the 2% mandated renewables measure.

REGA urges active Australian participation at the forthcoming sixth session of the Conference of the Parties (COP 6) Conference in November 2000 in The Hague, the Netherlands.