

SUBMISSION
TO INQUIRY INTO THE KYOTO PROTOCOL

IMPLICATIONS FOR AUSTRALIA PROCEEDING OR NOT PROCEEDING TO RATIFY:

It is most important that Australia should proceed to ratify the protocol because if we do not, the likelihood is that we shall continue in our assumptions that we are the "lucky country" until ecological damage is irremediable and our economic viability is severely reduced. We need the constant urge by the international community to pressure us to make necessary changes. If we do not ratify we are unlikely to change our patterns in the use of fossil fuels and production of greenhouse gases.

Less importantly, but still of concern, is the disgrace of our not being prepared to do our part in the international effort to save the planet. To say we will not sign unless the United States does so is childish and unworthy. We have surely come sufficiently of age to stand on our own two feet. It is no argument that economic growth prevents our meeting the target prescribed by Kyoto. In 1988 China's economy grew by 7.2 per cent while its emissions dropped by 3.7 per cent. Denmark and Germany have also had remarkable success in decoupling energy demand from economic growth".¹

Predicted environmental outcomes if we do not ratify:

1. The United Nations Advisory Group on Greenhouse Gases has found that a global mean temperature increase beyond 1.0 degree Celsius "may elicit rapid, unpredictable and non-linear response that could lead to extensive ecosystem damage". The same body found that limiting sea level rise to 20mm per decade would "permit the vast majority of vulnerable ecosystems, such as natural wetlands and coral reefs, to adapt. Beyond this rate of (sea level) rise damage to ecosystems will rise rapidly".²
2. The Intergovernmental Panel on Climate Change has predicted that if we continue to use fossil fuels at our current rate, CO₂ concentrations will double by the year 2060 which could cause temperature increases between 1.5 and 4.5 degrees Celsius.
3. High ocean temperatures can lead to the death of corals. Already, according to the Great Barrier Reef Marine Park Authority, 88 percent of inshore reefs along the Queensland coast have been affected.³
4. Raising of the sea level will destroy the homes of people on low-lying islands, e.g. Kiribati. These people have not been involved in producing greenhouse gases in the same way as the inhabitants of developed countries and it is very unfair that they should bear the consequences.

Social Outcomes:

1. In terms of employment, BP Solar estimates that for \$1 million invested in photovoltaic cells, 3.5 jobs (approximately) are created.⁴ By contrast, the Stuart Oil Shale Project in Queensland can offer only 0.5 jobs per \$1 million invested.⁵ Dr Manfred Lenzen and Dr Christopher Day,

¹ Friends of the Earth, Fitzroy, (www.foe.org.au) July 14, 2000.

² Rijsberman F.J. and Swart R.J. (eds) 1990 Targets and Indicators of Climate Change: Stockholm Environment Institute for the United Nations Advisory Group on Greenhouse Gases (UNAGG)

³ Great Barrier Reef Marine Park Authority, 1998, Latest on Coral Bleaching, Media Release 23/4/98.

⁴ Media Release 11/8/98, "BP to Build World Class Solar Manufacturing Plant In Sydney".

⁵ Stage 1 of Stuart Oil Shale project will employ 122 people in mining and processing oil shale for an investment of \$250 million. Source: <http://www.suncor.com>.

Research Associates in Applied Physics, University of Sydney, claim that their research 'could be used as guidelines for new government policies aimed at simultaneously boosting labour and reducing greenhouse gas emissions.'⁶

2. Pacific Solar Pty Ltd estimate that the solar industry could create 3,500 new jobs by the year 2010.⁷
3. Human health depends on the health of the planet. The World Meteorological Organisation in its 1998 statement noted that the El Nino phenomenon has been experienced more strongly than ever before. This has been notable in the severity of droughts and floods experienced not only in Australia but also in France, Peru, China and India.

Economic Outcomes:

1. Australia has the potential to become a world leader in the manufacture of solar panels, an industry that could be worth more than \$1 billion per year.
2. Loss of the fragile ecosystem of the Great Barrier Reef would cost Australia millions of dollars in lost revenue from tourism and fishing. Loss of the reef would also have a detrimental effect on the mainland coast.
3. Warmer environments are likely to cause a spread in tropical pests such as fruit-fly and cattle ticks. A CSIRO study has shown that increased rainfall and temperature rise would extend the area of infection of the "blue tongue" cattle disease southward by 150km.⁸
4. Energy from fossil fuels is provided at artificially low prices due to government subsidies (\$2 billion per annum, and \$4-5 billion indirect subsidies) and the failure to internalise environmental costs. Adherence to the Kyoto Protocol would shift expenditure away from these damaging subsidies.
5. The Kyoto protocol would move us to reduce energy wastage - up to \$1 million is wasted every day due to unnecessary energy use and inefficient appliances.
6. The market share in solar hot water would increase dramatically with government support to households to make the change. Currently it is barely 4% as compared to some European countries where it reaches 50%.⁹
7. On the occasion of the launching of the publication *Meeting the Kyoto Target: Implications for the Australian Livestock Industry* the Bureau of Rural Sciences issued a media release in which it stated that proposals have been detailed which could potentially reduce greenhouse emissions "while at the same time increasing animal productivity".¹⁰
8. Needless to say, economic models which attempt to show the gains/losses predicated upon greenhouse gas minimisation must realistically show the benefit of reduction of damages due to air pollution and climate change. This is not always recognised.¹¹

⁶ Anne Sarzin, 'Reduce greenhouse gases, increase jobs: research', The University of Sydney News, 26 August 1999.

⁷ Lawley, P 1998 Going for Gold: Taking the Australian PV Industry to Number One, Pacific Solar Pty Ltd.

⁸ Ward, M. P., 1994, "The Use of Discriminate Analysis in Predicting the Distribution of bluetongue virus in Queensland", Veterinary Research Communications, 18: 63-72.

⁹ Crawford, S (1999) Renewable Energy: Breaking Through the Barriers, a CIPSE Report, Sydney.

¹⁰ Media Release, Bureau of Rural Sciences, AFFA99/14D 3 September 1999, Reducing Greenhouse Gases in Australia's Livestock Industries. (<http://www.brs.gov.au/media/livestockmedia.html>).

¹¹ Cf Larry Parker, IB97057: Global Climate Change: Market-Based Strategies to Reduce Greenhouse Gases, April 28, 2000. (For THE NATIONAL COUNCIL FOR SCIENCE AND THE ENVIRONMENT).

THE VERACITY OF CONFLICTING CURRENT SCIENTIFIC THEORIES ON GLOBAL WARMING AND ANY SOLUTIONS PROPOSED FOR IT

In December 1998, the American Geophysical Union approved a position statement on Climate Change and Greenhouse Gases. In a paper summarising this position Tamara S. Ledley, Eric T. Sundquist, Stephen E. Schwartz, Dorothy K. Hall, Jack D Fellows and Timothy L. Killeen present arguments put forward by many groups and scientists (a bibliography of 11 A4 pages). I present their summary:

In summary, the atmospheric concentrations of the principal greenhouse gases (CO₂, CH₄, N₂O, CFC-11, and CFC-12) have increased significantly during the industrial period. Elevated concentrations are predicted to persist in the atmosphere for times ranging to thousands of years. The increased atmospheric levels of these gases, especially CO₂, increase the IR energy absorbed by the atmosphere, thereby producing a warming influence at the Earth's surface.

Global mean temperatures have increased between 0.3 and 0.6°Celsius during the last 150 years. This change has not been monotonic, but it is unusual in the context of the last few centuries. On the timescale of the last few thousand years there have been larger climatic variation during times when variations in CO₂ have been relatively low. It is clear that atmospheric CO₂ is not the only influence on global climate. However, there have been large natural variations of CO₂ in the geologic past, and these changes are correlated with general features of climate change. There is no known geologic precedent for large increases of atmospheric CO₂ without simultaneous changes in other components of the carbon cycle and climate system.

Changes in the climate system that are confidently predicted in response to increases in greenhouse gases include increases in mean surface air temperature, increases in global mean rates of precipitation and evaporation, rising sea level, and changes in the biosphere. [Emphasis added] Substantial uncertainties remain in the magnitudes and geographical distribution of these changes.

To quote an additional source, Larry Parker makes the following statement in an issues briefing to THE NATIONAL COUNCIL FOR SCIENCE AND THE ENVIRONMENT:

Despite the uncertainties, however, scientists and policy makers have increasingly adopted the view that human activities are releasing greenhouse gases at rates that could affect the global climate. As a result, initiatives are underway to address the issue, resulting in proposals for national and international programs to curtail emissions.

Graeme Pearman, chief of the Division of Atmospheric Research, CSIRO, quotes the Intergovernmental Panel on Climate Change:

- ❖ greenhouse gas concentrations have continued to increase;
- ❖ anthropogenic aerosols tend to produce negative radiative forcing;
- ❖ the climate has changed over the last century;
- ❖ the balance of evidence suggests a discernible human influence on global climate.¹²

WHAT DEFINITIONS AND CRITERIA AUSTRALIA SHOULD DEVELOP AND ACTIVELY PURSUE IN ITS NATIONAL INTEREST ...

First of all, I want to emphasise that "Australia's national interest" is a sub-set of the planet's interest. The planet can live, and has done so for millions of years, without human beings. Human beings, including Australians, cannot live without the planet.

¹² Greenhouse Beyond Kyoto Conference, Graeme Pearman, 'Where Science Can lead us', March-April, 1998.

While I recognise Australia's situation as an exporter of products requiring high energy emissions¹³, the fact remains that not nearly enough support has been given to Research and Development in the field of renewable energy sources. Reduction of emissions requires the support of the public at large and much greater effort must be expended to harness that support through judicious use of the media. It is not sufficient to rely on the interest of those who are highly motivated and have access to the internet. Opinions of such people are often set aside as 'elitist'. What is needed is a national awakening, promoted by creative use of **mass media** of communication.

One criterion that should be held securely is that we need to be wary of "soft options". While carbon sinks, revegetation and appropriate land management have a part to play, these efforts must be in addition to, not a replacement for, the substitution of greenhouse gas producing forms of energy by forms that are renewable. Furthermore, care must be taken to ensure that methods chosen to diminish the rate of greenhouse gas emissions are not themselves environmentally damaging. This applies to the proposed use of tidal energy in West Australia¹⁴ and the proposal to dispose of CO₂ in the subsurface, for example in the Gladstone Rockhampton region. For reasons that should be obvious, Nuclear power is not an option. This is not to present a doom and gloom scenario. The initial outlay required to create the shift to more sustainable ways of living and being on this planet will be rewarded in the longer term, even economically, by less expenditure on undoing environmental damage. This is recognised by firms who have joined the Greenhouse Challenge:

The key reasons for participation among Tier 1 organisations include a commitment to responsible corporate governance and corporate citizenship, a desire to demonstrate the viability of voluntary (rather than mandatory) action and **a desire to reduce costs and adopt best practice**. [Emphasis added]....The potential for cost saving is the prime motivator for participation among Tier 2 organisations.¹⁵

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

While I appreciate the efforts of the Australian Greenhouse Office (AGO) and the positive approaches they have used to get industry "on side"¹⁶, the fact remains that, in October 1999, only 224 organisations and industry associations had signed cooperative agreements and 178 had indicated an intention to do so. Further, these cooperative agreements are at this stage merely forecasting emissions for the year 2000, or possibly to 2005. Actual data may vary significantly. There are manifold examples to indicate that self-regulation in industry is not reliable. In what concerns greenhouse gases, where the harmful effects are not obviously threatening, we can depend even less on voluntary measures. Consequently we need either penalties or incentives, or perhaps a combination of both. A scenario I could envisage would be a combination of emissions trading whereby companies are given permits for a limited maximum of emissions with penalties ensuing after this maximum is reached¹⁷, and incentives for efforts in research and development towards minimisation of greenhouse emissions in favour of the use of renewable energy sources. It

¹³ John Daly, 'The Kyoto Protocol, Emissions Trading and the National Interest' in *The National Observer*, Summer 2000, pp 1,9.

¹⁴ www.greenhouse.gov.au, media release 20/6/00.

¹⁵ Greenhouse Challenge Evaluation Report, AGO, October 1999, p. 49, 50.

¹⁶ Greenhouse Challenge Evaluation Report, AGO, October 1999.

¹⁷ Cf Dr David Harrison, special adviser, Emissions Trading, Australian Greenhouse Office, 'Analysis of Buenos Aires CoP4 - The Implications for Australian Domestic Greenhouse Gas Emissions Policy, Nov. 23-24 1998 [www.greenhouse.gov.au] p.4.

is significant that European countries have proposed an early introduction of a permit trading system for domestic use.¹⁸

The Greenhouse Challenge Evaluation Report indicates many positive outcomes for participants. While much emphasis is laid on the voluntary nature of participation, it becomes clear in the Report that the advantages are associated more with participants being able to choose their own methods for reducing emissions rather than whether or not they participate in the program. **Now that there is a good basis of experience in implementing the Challenge there would be a real advantage in making participation compulsory.** Much of the good work done by participating agencies could be undone by those who do not participate. A system of mentoring described with reference to 'Greenhouse Allies' could persuade reluctant participants of the advantages of Managing Energy for Profits.¹⁹

To conclude this submission, I reiterate that, on the basis of all the points raised above, Australia should ratify the Kyoto Protocol and reinvigorate efforts to curtail the emission of greenhouse gases.

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¹⁸ Knut H. Alfsen, 'Quotas here and quotas there: On the development of national emissions trading systems' in *Cicerone* 3/2000, p1-2.

¹⁹ Greenhouse Challenge Evaluation Report, p. 14.