



Submission to
Joint Standing Committee on Treaties

INQUIRY INTO THE KYOTO PROTOCOL

14 September 2000

*The difficulty lies not with new ideas,
But in escaping the old ones*

John Keynes

INTRODUCTION

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) sent an unequivocal message to the world. Governments at this meeting were concerned enough about the potential environmental and economic threats posed by global warming, that they forged an action plan to reduce CO₂ pollution. The Kyoto Protocol represents one small step along the path to economic and environmental sustainability.

At each step powerful economic entities, motivated by short-term interest, have consistently attempted to delay progress. At first, these 'climate sceptics' questioned the accuracy and authenticity of the science. Some continue to paint a picture that has bogged down in uncertainty.

In truth, with each year scientific evidence and precision grows. Throughout the 1990s climate change science progressed very rapidly indeed - due in no small part to an unprecedented volume of work undertaken around the world. The evidence of atmospheric warming caused by the burning of fossil fuels is now beyond reasonable argument.¹ More recently, evidence has begun to emerge of an increased incidence of extreme climate events - more severe storms, cyclones, floods, droughts and fire.² These events have begun to form patterns consistent with climate modelling and predictions.³

With the emergence of this evidence, climate sceptics have turned from attacking the science to attacking the response. Driven by economic self interest they attempt to argue that any action to reduce greenhouse pollution is premature. Such organisations, like the Lavoisier Group supported by the fossil fuel industry, lack credibility by relying on the science of a few individuals and ignoring the work of the Intergovernmental Panel on Climate Change (IPCC). These groups fail to recognise the broader national interest or the social and environmental imperatives driving the push for improved sustainability.

Four hundred years ago, technical innovation and fossil fuels combined to produce the industrial revolution. Today, new sustainable energy technologies are producing a clean energy revolution of their own. Technical innovation will again replace old technology long before fossil fuels reserves are depleted. In the process new economies and new industries will flourish.

¹ IPCC Working Group 1, Summary for Policy Makers

² Munich Re 2000 Topics 2000 Natural Catastrophes – the current position, Hamburg

³ Gates, W.L. et. al. (1996) Climate models - evaluation in, Climate change 1995: the science of climate change (eds.) Houghton, J.T. et. al. Cambridge University Press, Cambridge, UK,

Delaying tactics can no longer be justified. Around the world industrial economies have already begun to stabilise or reduce carbon emissions. Germany, Denmark, and the United Kingdom are all well below 1990 emission levels. These countries have strong economies with booming new industries based on sustainable energy technology.

Greenpeace hopes this inquiry will help move beyond short term political diversions. The question to be asked is not 'how much will Kyoto compliance cost?' But rather 'What are the economic and environmental costs of failing to respond to the winds of change?' If we do not act now, fossil fuels will rapidly become a financial and environmental noose around Australia's neck.

THE IMPLICATIONS OF AUSTRALIA PROCEEDING OR NOT PROCEEDING

Environmental Costs

According to the CSIRO, 75% of Australia's greenhouse gas emissions come from fossil fuel sources.⁴ The IPCC predicts that if the world continues to use fossil fuels at current rates, CO₂ concentrations will double by the year 2060.⁵ A doubling of CO₂ in the atmosphere is expected to cause temperature increases of between 1.5 and 4.5 degrees Celsius.⁶ A recent report by the influential UK Hadley Centre for Climate Prediction and Research commissioned by the UK Government predicts an increase of 3 degrees Celsius in global average temperature by the 2080s compared to the present under business-as-usual scenarios.⁷

Since signing the Kyoto Protocol the world has experienced extraordinary climatic events. 1998 saw the strongest El Nino phenomenon ever.⁸ Extreme droughts and floods followed, with hot dry conditions and devastating forest fires in South East Asia and Papua New Guinea. The Southern United States suffered the worst droughts ever recorded and severe flooding in Peru, China and the Indian Subcontinent left millions homeless.⁹ The summer of 2000 has been yet another record year in the United States with the worst forest fires ever experienced.¹⁰ 1997, 1998 and 1999 all saw severe storms and cyclones.¹¹ The global Insurance giant Munich RE says

⁴ Dr Chris Mitchell, CSIRO Division of Atmospheric Research; Presentation to the Australian Government's Coordination Committee on Science and Technology; June 1999. From [Climate Change Newsletter](#); Volume 11 Number 3; October 1999; Australian Bureau of Rural Sciences

⁵ IPCC mid-range emissions scenario IS92a in, Leggett, J; Pepper, W.J., and Swart, R.J.; [Emission Scenarios for the IPCC: An Update](#); in Houghton, J.T., Callander, B.A., and Varney, S.K., (eds); [Climate Change 1992: The Supplementary Report to the IPCC Scientific Assessment](#); published for the Intergovernmental Panel on Climate Change (IPCC); Cambridge University Press; 1992.

⁶ Intergovernmental Panel on Climate Change; Second Assessment Report; 1995

⁷ [Climate change and its impacts: Stabilisation of CO₂ in the atmosphere](#); Hadley Centre for Climate Prediction and Research, The UK Meteorological Office for the UK Department of the Environment, Transport and the Regions. The full report can be found at www.met-office.gov.uk/sec5/CR-div/CoP5/contents.html.

⁸ World Meteorological Organisation 1998 [WMO Statement on the status of the Global Climate](#) WMO, Switzerland

⁹ *ibid.*

¹⁰ <http://www.theglobeandmail.com/gam/ROB/20000807/RENV1.html>

¹¹ World Meteorological Organisation 1998 [WMO Statement on the status of the Global Climate](#) WMO, Switzerland

compared to the 1960s natural disasters in the 1990s increased by a factor of three, resulting in an eightfold increase in insurance pay outs.¹²

Here in Australia, severe cyclones and coral bleaching had a devastating impact on The Great Barrier Reef.¹³ In 1999 a severe hailstorm in Sydney saw the largest ever Australian insurance pay out.¹⁴

The CSIRO has begun detailed scientific modelling of regional climate change impacts. Models predict that temperature increases of 1 - 1.5 degrees Celsius are now inevitable. This means that even with the full and immediate implementation of the Kyoto Protocol, by 2030 Australia will be a drier continent.¹⁵ The CSIRO says rainfall will be reduced by up to 12% in some parts of Australia. While overall precipitation will decrease, rainfall will tend to fall in more intense cycles - heavy rain followed by dry spells. This is expected to exacerbate flood/drought cycles. Northern Australia can expect a 5-20% increase in the intensity of cyclones.

A recent report by the World Wide Fund for Nature predicts up to 70% of habitat could be lost in regional areas where warming impact is greatest.¹⁶ In parts of south eastern Australia the report says up to 20% of all species could be lost.¹⁷

To meet the objective of the UNFCCC, that is to stay within ecological limits and avoid catastrophic damage to ecosystems, action must be taken to reduce fossil fuel emissions immediately. The full and immediate implementation of the Kyoto Protocol currently offers the best framework to begin this process.

Economic Issues

Responding to climate change is not about deconstructing the Australian economy. Transition and structural change will be necessary for some industries, but for the economy over-all it will mean investment in new technologies, new operational and manufacturing processes and improved levels of efficiency. For many industries, climate change presents exciting new economic opportunities. In NSW the Sustainable Energy Development Authority has reported that the industry is already one of the fastest growing sectors of the state's economy.¹⁸

Overstating the negative economic impact of reducing emissions

A recent study undertaken by the Canadian Department of Finance into the economic impact of reducing CO₂ emissions on the Canadian economy, concedes that individual sectors may be negatively affected, but that overall Canada could achieve a 31% reduction in emissions by 2010.¹⁹ The economic impact of this massive reduction would shave only 0.6 – 3.0 % off GDP growth, negligible in the context of 30% total growth by 2010.²⁰ The study was undertaken as part of an assessment of Canada's 6%

¹² Munich Re 2000 Topics 2000 Natural Catastrophes – the current position, Hamburg

¹³ Hoegh-Guldberg 1999 Climate Change, Coral Bleaching and the Future of the World's Coral Reefs University of Sydney

¹⁴ Munich Re 2000 Topics 2000 Natural Catastrophes – the current position, Hamburg

¹⁵ Dr Kevin Hennessy, CSIRO presentation given at Australian National University, Canberra, 4 May 2000

¹⁶ World Wide Fund for Nature 2000 Climate change and Terrestrial Biodiversity Decline, Washington

¹⁷ *ibid.*

¹⁸ Sustainable Energy Development Authority 1999 The Contribution of the Sustainable Energy Industry to the NSW Economy, Sustainable Energy Development Authority, Sydney

¹⁹ <http://www.theglobeandmail.com/gam/ROB/20000807/RENV1.html>

²⁰ *ibid.*

reduction target under the Kyoto Protocol. The Department found Canada's Kyoto target will initially provide an economic stimulus as money is spent on new technology. Similar studies undertaken by the private think tank Informetrica, predict an economic slowdown in the short term but overall 'little negative effect' in the medium to long term.²¹ Similar conclusions have been reached by the highly respected Hadley Centre in the United Kingdom.²² The work undertaken in Canada and the United Kingdom contrasts sharply with the picture being painted by climate skeptics here in Australia.

Failing to tell the whole story

Part of the problem is that economic modelling used by sceptics fails to adequately take into account inherent inefficiencies in the existing carbon economy. It goes without saying that Australia would *benefit* from improved energy efficiency. In most cases innovation and improved efficiency could more than off-set cost increases associated with carbon fuel phase out.

A case in point is new EPA energy standards in the United States. These standards have cut electricity consumption for appliances in 'standby mode' (switched off), reducing consumer energy bills by \$4 billion per year and saving millions of tonnes in greenhouse pollution.²³ Retro fitting 15% of all commercial office space has saved businesses in America \$1.6 billion in reduced energy bills and cut greenhouse pollution by 4 million tonnes.²⁴ Savings of this nature are overlooked or glossed over by sceptics who paint a picture of economic collapse resulting from Kyoto compliance.

In Australia, modelling by ABARE and the fossil fuel sector consistently understate the potential of improved energy efficiency.²⁵

Costs to the Australian economy of not acting

Climate sceptics also fail to adequately assess the negative economic impacts of not reining in emissions. The impacts of climate change will exact a huge toll on the Australian economy. Worst hit may be the agricultural and tourism sectors.

Agriculture accounts for a large portion of Australia's export earnings and in 1997-98 total agricultural production accounted for \$28 billion.²⁶ The IPCC has concluded that Australia is particularly vulnerable to climate change because of its tropical/subtropical latitude, scarce water sources and the fact that crops already grow at or above their optimum temperatures.²⁷

Severe drought in the early 1990s caused a drop in production of several key agricultural products (mainly grain and wool). In 1994-95 drought caused a drop in production of almost 50% and losses of \$2 billion.²⁸ In March 1997 a single storm,

²¹ *ibid.*

²² http://www.meto.govt.uk/sec5/CR_div/pubs/pubslink.html

²³ Skip Laitner, Senior Economist in the Office of Atmospheric Programs US EPA. Lecture given Sydney July 10, 2000.

²⁴ *ibid.*

²⁵ Hamilton, C & Quiggin J 1997 Economic Analysis of Greenhouse Policy Australia Institute, Lynham

²⁶ Australian Bureau of Statistics

²⁷ Basher R et. al. 1997 Regional Impacts of Climate Change: IPCC Special Report

²⁸ Greenpeace 1997 Risking Australia: The Impact of Climate Change Greenpeace, Sydney

Cyclone Justin, cost an estimated \$130 million in losses to North Queensland's banana and sugar crops.²⁹ The impact of climate change on the water resources of the Macquarie River Basin in northern New South Wales is projected to cause overall economic losses of 6-23% to regional agriculture (sheep, beef, wool, wheat and cotton).³⁰ These products comprise 92% of the value of the regional economy.

Warmer environments are also likely to cause the spread of pests and disease to areas where favorable conditions do not currently exist. The southward spread of cattle ticks has been predicted to incur national costs for the industry of \$18-192 million.³¹ A CSIRO study into the cattle disease, 'blue tongue', found increased rainfall and a rise in temperature would extend the area of infection 150km southward.³²

It has been assumed that increases in CO₂ could lead to increased plant growth but studies by the CSIRO indicate that in the long-term, higher CO₂ levels will result in low-protein crops.³³ Low-protein crops are less nutritious to livestock and fetch a lower price on global markets.³⁴

Australia's tourism industry is also at risk. The IPCC has stated; "*Australia's coral reefs, including the Great Barrier Reef, are among the region's most sensitive environments to sea-level rise and climate change ...*"³⁵ In 1998, reefs around the world experienced the worst coral bleaching on record.³⁶ Based on aerial survey's carried out by The Great Barrier Reef Marine Park Authority, up to 88 % of inshore reefs along the Queensland coast were affected.³⁷ The loss of this fragile ecosystem would cost Australia billions of dollars in lost revenue from tourism and fishing. Tourism on the Great Barrier Reef currently generates approximately \$1.5 billion a year.³⁸ In addition, damage to the reef would have an impact on the coastal protection it provides, resulting in further economic impact on human settlement and agriculture.

None of these costs have yet been adequately quantified or included in economic modelling associated with climate change.

²⁹ Crops bear brunt of cyclone Justin, Australian Financial Review, 25 March 1997

³⁰ Greenpeace 1997 Risking Australia: The Impact of Climate Change Greenpeace, Sydney

³¹ CRC for Tropical Pest Management, CSIRO Division of Entomology, 1996

³² Ward M.P., 1994, The Use of Discriminate Analysis in Predicting the Distribution of blue tongue virus in Queensland, Veterinary Research Communications 18: 63-72

³³ Wheat experimentally exposed to double CO₂ was found to contain less than 9% protein. CSIRO Plant Industry Commission Group, 1997, Plants in a Greenhouse World, CSIRO, Canberra

³⁴ *ibid.*

³⁵ Basher R et. Al. 1997 Regional Impacts of Climate Change: IPCC Special Report

³⁶ Hoegh-Guldberg 1999 Climate Change, Coral Bleaching and the Future of the World's Coral Reefs University of Sydney

³⁷ Great Barrier Reef Marine Park Authority 1998 Latest on Coral Bleaching Media Release 23/4/98

³⁸ Hoegh-Guldberg 1999 Climate Change, Coral Bleaching and the Future of the World's Coral Reefs University of Sydney

Economic benefits and new economic opportunities

Employment in the coal-based electricity generating sector has fallen 60% from a high in 1984.³⁹ Per unit of output, more jobs are created in new sustainable energy industries than in fossil fuel industries (see below).

Direct employment per million dollars invested

Technology	Jobs per A\$ million invested
Oil Shale ⁴⁰	0.5 jobs/ \$m
Solar Electric ⁴¹	3.5 jobs/ \$m
Energy efficiency ⁴²	35 - 50 jobs/ \$m

Direct Employment per unit of energy in Different Energy Technologies

Technology	Jobs per unit of energy produced (million megawatt-hours per year)
Oil Shale ⁴³	46.3
Coal mining and power generation ⁴⁴	116
Solar thermal electricity ⁴⁵	248
Wind ⁴⁶	542
Energy efficiency ⁴⁷	400 – 860

As the Australian economy makes the transition away from fossil fuels, new investment, jobs, economic growth and exports will be created in clean energy industries.

In 1999, The NSW Sustainable Energy Development Authority (SEDA) undertook the first comprehensive study in Australia of jobs and economic growth in the renewable energy and energy efficiency industry.⁴⁸ This study revealed total sales of new technology now well over \$1 billion per annum, with the sustainable energy industry contributing between \$2.2 billion and \$3.3 billion to the NSW economy. In NSW, the industry employs almost 5000 people directly and an additional 8000 indirectly.⁴⁹ Employment grew 15% in 1998 and is expected to grow 12% in 1999.⁵⁰

³⁹ 'Electricity Australia's Fiftieth Issue: A Timely Pointer to Change' in Australian Energy News, Issue No.5, Sept 1997

⁴⁰ *ibid.*

⁴¹ Sonneborn, C & Russell, S 1999 Green Power in Context Australian Cooperative Research Centre for Renewable Energy, Perth

⁴² Holger M. Eisl et al. (1991) Investing in the Future: An Economic Analysis of the New York State Weatherisation Assistance Program. CBNS, Final Report, Prepared for the New York State Department of State, Division of Economic Opportunity; quoted in Renner, M. (1991) Jobs in a Sustainable Economy. Worldwatch Institute Paper 104

⁴³ Stage 1 of Stuart Oil Shale project will employ 122 people and produce 4,500 barrels of oil per day (equal to 2.65 million Megawatt-hours per year). Source: <http://www.suncor.com/>

⁴⁴ Flavin, C. and Lenssen, M. (1990) Beyond the Petroleum Age: Designing a Solar Economy, Worldwatch Paper 100

⁴⁵ *ibid.*

⁴⁶ *ibid.*

⁴⁷ Laitner, S. (1991) Prepared Testimony before the Wisconsin Public Service Commission, Economic Research Associates; quoted in Lent, T. (1992) Energy for Employment: How to heat up the economy, not the planet, report for Greenpeace USA.

⁴⁸ SEDA 1999 The Contribution of the Sustainable Energy Industry to the NSW Economy, Sustainable Energy Development Authority, Sydney

⁴⁹ *ibid.*

⁵⁰ *ibid.*

BP Solar estimates that for \$1 million invested in photovoltaics, approximately 3.5 jobs are created.⁵¹ This contrasts with the new Stuart Oil Shale Project in Queensland where 0.5 jobs are created per \$1 million invested.⁵²

Wind turbine manufacturing in Europe is another green industry success story. With growth rates around 40%⁵³ it is the fastest growing energy industry in the world – employing 25,000 and with export earnings of more than \$1 billion per annum.⁵⁴ The World Energy Council forecasts renewable energy will increase its market share to between 18 - 30% by 2010.⁵⁵

Australia must act now to secure its share of this important industry. The Sustainable Energy Industry Association of Australia has consistently argued that ratification and full implementation of the Kyoto Protocol would provide a powerful driver to stimulate the renewables sector.⁵⁶

THE VERACITY OF CONFLICTING CURRENT SCIENTIFIC THEORIES

International climate negotiations have moved beyond focusing on the veracity of conflicting scientific theories. As a nation, Australia signed the UNFCCC nine years ago. This document, which Australia has ratified, aims for “*the stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.*”⁵⁷

In 1997 Australia signed the Kyoto Protocol, committing itself to specific CO₂ emission limits.

Greenpeace is unsure why this inquiry has bothered to revisit this issue when international negotiations and the world’s scientists have moved on. Current climate change science is the result of one of the most exhaustive scientific processes in human history. The IPCC is made up to 2500 of the world’s leading scientists. Their work is updated regularly, and the culmination of numerous reports, studies and literally thousands of scientific papers from around the world - all individually peer reviewed. Responses to common arguments put by climate skeptics are set out below.

Myth: The science of global warming is far from certain.

Reality: Uncertainty is inherent in any scientific experiment or model. Only data that falls within a clearly defined and scientifically accepted range has been used to develop the current theories of global warming and climate change.

⁵¹ BP Solar’s planned expansion in Sydney was to employ 200 people for an investment of \$57 million. Source: BP Solar Media Release 11/8/98, ‘BP to Build World Class Solar Manufacturing Plant in Sydney’.

⁵² 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>

⁵³ European Wind Energy Association, Forum for Energy and Development and Greenpeace; 1999 Wind Force 10: A Blue Print to Achieve 10% of the World’s Electricity From Wind Power by 2020

⁵⁴ Greenpeace 1998 Danish Wind Energy: An Industrial Success Story, Greenpeace International, Amsterdam

⁵⁵ Greenpeace 2000 Energy, Employment, Export and Environment, Greenpeace Sydney

⁵⁶ Sustainable Energy Industry Association 1999 Submission to the Senate Inquiry into Global Warming, Canberra

⁵⁷ Framework Convention on Climate Change (FCCC), Article 2; United Nations; 1992.

The fossil fuel lobby and some industrial sectors have chosen to focus only on a very narrow band of uncertainty. While it is possible climate change may be less severe than models predict, it is equally plausible that impacts could be worse than current scientific models suggest.

The IPCC has taken great care to emphasize that the uncertainties work both ways, not just reducing the risk. In its Second Assessment Report, the IPCC found that whilst uncertainties remain, the risk of damage and the precautionary principle provide a clear basis for immediate action to reduce greenhouse gas emissions.

Myth : **The human contribution to atmospheric CO₂ is small and its effect on global warming is negligible**

Reality: The IPCC has found that there is incontrovertible scientific evidence showing that the increase in CO₂ levels since pre-industrial times is due to human activities.⁵⁸ The 25% increase in CO₂ concentration since pre-industrial times is due to human activity.⁵⁹

Whilst there are large natural fluxes into and out of the atmosphere each year from the oceans and plants these are known with certainty not to be the cause of the increase. Given the weight of scientific evidence to the contrary, the assertion that the continued burning of fossil fuels will not lead to higher concentrations of warming gases in the atmosphere, can no longer be argued with credibility.

Myth: **Climate modeling is known to be inconsistent and sometimes wrong.**

Reality: Continual refining and improvement of existing models, discovering weaknesses in past models along the way, cannot lead to the conclusion that modeling is wrong. Climate models are proven to be increasingly accurate and successful at reproducing trends in climatic behavior from the past.⁶⁰ This allows for ever improving accuracy and confidence in future modeling. Different models give varying results because they use different physical mechanisms to represent the respective interactions of the key climatic influences. Climate models are certainly not known to be wrong.

Myth: **The Kyoto Protocol is based on imprecise science and adopts a punitive approach**

Reality: The Kyoto Protocol is based on science of the IPCC. Formed in 1988 by the World Meteorological Organisation and the United Nations Environment Program, this body is made up of many of the world's most respected scientists. The IPCC's task is to :

- assess available scientific information on climate change
- assess the environmental and socio-economic impacts of climate change,
- formulate response strategies (IPCC WGI, 1996, Foreword).

⁵⁸ IPCC Working Group I, 1996 Summary for Policy Makers

⁵⁹ *ibid.*

⁶⁰ Gates, W.L. et. al. (1996) Climate models - evaluation in, Climate change 1995: the science of climate change (eds.) Houghton, J.T. et. al. Cambridge University Press, Cambridge, UK,

In 1997, with the world's most detailed science at their disposal, policy makes from more than 150 countries gathered in Kyoto to negotiate a path forward. Line-by-line discussion and agreement of the document took place. Australia was an active participant in these discussions.

The initial text was subjected to hundreds of amendments, many coming from oil exporting countries and industrial lobbies. Heavy lobbying from numerous quarters including among others Saudi Arabia, Australia, and most of the world's largest and most powerful oil and fossil fuels companies resulted in the final version far less prescriptive than many scientists, NGOs and some countries would have liked. At the time, many parties were dismayed and disappointed by the 'dilution' of the original version.

The final version of the Kyoto Protocol is a compromise and far less prescriptive than originally proposed. The Protocol was altered in a number of specific instances to accommodate the wishes of Australia and Australian industry. The document was amended in no small way to give countries maximum flexibility in meeting their respective targets.

For some stakeholders to now argue that the Protocol is too punitive, flies in the face of the historical circumstances under which it was forged, - not to mention the role many of these same stakeholders played in forging the final document.

DEFINITIONS AND CRITERIA AUSTRALIA SHOULD DEVELOP AND PURSUE FOR ITS NATIONAL INTERESTS

The wording of this particular 'terms of reference' is misleading and misses the fundamental issue at the heart of climate change. Global Warming is a global problem requiring a co-ordinated global response. The Earth's atmosphere is a shared global asset essential for life and no country or citizen has a greater right to pollute than any other. Yet this is precisely what underpins the concept of pursuing definitions and criteria for Australia's own interests.

An Australian creates on average 7 times more pollution than each Chinese person.⁶¹ Australia's 19 million people generate as much greenhouse pollution as Indonesia's 180 million. Despite this, developing nations are taking dramatic steps to reform their energy sectors, create renewable energy markets and reduce subsidies to greenhouse polluting fossil fuels.

Since 1980, India has installed 50 times more wind power than Australia.⁶² China generates a far greater proportion of its energy from co-generation in industry than Australia⁶³ and has introduced 30 energy efficiency laws since the early 1980s.⁶⁴

⁶¹ Pew Centre on Global Climate Change 1998 Equity and global Climate Change Pew Centre, Arlington

⁶² Greenpeace 1998 Danish Wind Energy: An Industrial Success Story, Greenpeace International, Amsterdam

⁶³ China generates up to 25% of its electricity from cogeneration in industry. Source: Flavin, C & Dunn, S 1997 Rising Sun, Gathering Wind: Policies to Stabilise the Climate and Strengthen Economies WorldWatch Institute, Washington

⁶⁴ *ibid.*

While China has reduced coal subsidies by 40% and oil subsidies by 96% since the 1980s, Australia has increased indirect subsidies to fossil fuel as part of A New Tax System (ANTS).⁶⁵

Germany has reduce CO₂ emissions by 17%, and the UK has already exceeded its Kyoto Target of 12.5% reduction.⁶⁶ The pound sterling is strong and the British economy is booming.

Around the world many countries, even developing countries with comparatively weak economies, have done, and continue to do, more than Australia. The UNFCCC was established to help facilitate a collaborative, co-operative approach to emission reductions. The time has come for Australia to adopt a more honest and ethical approach than the pursuit of definitions and criteria purely for its own interests.

Emissions trading

To date, Australia has done nothing to meaningfully reduce industrial emissions at source. Recent greenhouse inventory figures show Australia's CO₂ emissions have increased from industrial sources by 116% of 1990 levels.⁶⁷ This has led to increasing doubt that Australia will be able to meet its 108% target by 2012. Greenpeace believes an early emissions trading scheme would provide a powerful market based incentive to reduce emissions.

That said, the primary objective of any scheme must be to deliver substantial, real and timely reductions in greenhouse gas emissions. There is no environmental value in carbon trading for trading's sake. To achieve real and timely reductions, any emissions trading system should be limited to those sectors of the economy where emissions can be calculated and monitored to a high degree of certainty.

Grandfathering

Greenpeace does not support the principle of grandfathering. The free allocation of permits on the basis of current pollution levels represents a potentially massive transfer of wealth from the public to the private sector. The option of auctioning permits in a free and competitive market environment offers a fairer and more equitable alternative. Auctioning would also provide the Federal Government with a substantial source of revenue which could be used to help compensate those in the community affected by the transition.

Carbon credits and sequestration

In order to maintain market credibility only those activities that can be rigorously calculated and monitored should be eligible as creditable activities. While carbon sequestration by trees is classified as a valid mechanism to meet Kyoto targets, many aspects of sequestration science remain uncertain.

Planting trees provides a range of environmental benefits, but trees only lock carbon away in temporary storage. Planting trees will never be a substitute for leaving fossilised carbon locked away in geological deposits for millions of years. Greenpeace

⁶⁵ Turton, H & Hamilton, C 1998 *The GST Package and Air Pollution* Australia Institute, Lyneham

⁶⁶ Moreland R & Gummer J 2000 *The European Union and Global Climate Change*, Pew Climate Centre, Arlington

⁶⁷ See National Carbon Accounting Inventory at <http://www.greenhouse.gov.au/inventory/>

supports tree planting as a valid part of ultimately restoring carbon equilibrium but carbon sequestration must not be used as a mechanism to enable continued burning of carbon fuels.

Despite this, Australia currently channels considerable financial and policy resources into establishing sinks schemes.⁶⁸

Australia appears to be relying on meeting its Kyoto obligations by off-setting industrial emissions with carbon sequestration. Greenpeace is opposed to any measures that allow for new credits to be generated through sequestration unless all emission sources are fully incorporated into any emissions trading scheme. Unless all emissions are accounted for in the market, the generation of new credits could easily lead to ever increasing industrial emissions while the Kyoto Protocol is met 'on paper' with tree planting. Under no circumstances should sequestration be used to allow for the continued *expansion* of fossil fuel emissions.

Until these issues can be resolved Greenpeace does not support the use of sequestration as a mechanism to generate carbon credits in any early emissions trading scheme.

Definitions and land management

The Kyoto Protocol has yet to finalise a number of critical definitions relating to vegetation and land management. Article 3.7 of the Protocol allows countries to count changes in land use towards their Kyoto Target but exactly what may be counted is yet to be determined. Australia has pushed for the widest possible definitions.

Greenpeace respects the work of CSIRO and other scientists in this area but is concerned the science is being used in a prescriptive manner at a policy level. While there is early evidence that agricultural management may reduce carbon emissions through some land management activities (like reduced soil tillage), uncertainties remain high.

Additional problems have arisen in the classification of forests and determining what constitutes 'afforestation, reforestation and deforestation' (ARD). Again, Australia is pushing for the broadest possible definitions. This could create the potential for perverse incentives that could see the conversion of native forests to 'managed forests' in the name of ARD activities. Such an outcome would have little or no demonstrable outcome for the atmosphere, yet result in a major setback for biodiversity.

Land management, sequestration by trees and emissions trading all face an additional problem. The credibility of any carbon management system ultimately lies in its ability to deliver real and timely emission reductions. To achieve this, a credible carbon accounting mechanism is vital. In the same way that land planted with trees for carbon credits becomes 'tagged' with an assigned carbon value (and must be monitored to ensure the carbon remains sequestered), credits earned through land management would need to be subjected to similar security and accountability checks.

⁶⁸ See Module 6 of the National Greenhouse Strategy for program details. Additional funding comes from of the \$1.6 billion Natural Heritage Trust through tree planting and agro forestry projects.

Unfortunately, monitoring carbon flow associated with land management and sequestration is still rudimentary.

The only way to keep an emissions trading scheme credible is to keep it simple. Until an accounting mechanism with sufficient sophistication can be developed, land management and sinks should be excluded.

THE ECONOMIC, ENVIRONMENTAL AND SOCIAL IMPLICATIONS OF A PUNITIVE APPROACH TO DOMESTIC REGULATIONS OF INDUSTRY

The Federal Government boasts that it has spent approximately \$1 billion dollars addressing climate change.⁶⁹ Unfortunately, this has failed to rein in greenhouse pollution.⁷⁰ The problem lies in poorly designed greenhouse programs with no meaningful incentives for compliance.

The failure of Australia's current voluntary based approach

The corner stone of Australia's greenhouse policy is the National Greenhouse Strategy and its predecessor the National Greenhouse Response Strategy (NGRS). The 1999 Queensland State of the Environment Report says, "*A review of the 1992 NGRS found that it had been largely ineffective due to an absence of commitment by jurisdictions to achieve implementation.*"⁷¹

The main problem is that virtually all programs which make up the National Greenhouse Strategy are vague, non-specific and lack meaningful compliance mechanisms. An example is The Greenhouse Challenge Program - designed to improve energy efficiency in the commercial sector. In the first four years of operation, only 209 of Australia's 890,000 businesses signed on to this voluntary program.⁷² Fewer still have been able to report demonstrable emission reductions.⁷³

The voluntary nature of most programs under the National Greenhouse Strategy means there is no incentive to move beyond a business-as-usual scenario. Companies are simply unable or unwilling to make the significant capital investment required to achieve emissions reduction.⁷⁴ Without mandatory targets and minimum performance standards competitive market forces ensure that efforts to reduce emissions remain stalled at business as usual, and this is presently what has occurred in Australia.

The benefits of a carbon tax

Numerous studies have been undertaken overseas to assess the benefits of carbon taxes.⁷⁵ Sweden, Finland, Denmark and the Netherlands have all introduced carbon

⁶⁹ Speech made by Senator Robert Hill, Minister for the Environment, www.environment.gov.au/minister/env/2000/mr13jul00.html

⁷⁰ *ibid.*

⁷¹ Environmental Protection Authority 1999 State of the Environment Queensland

⁷² Greenhouse Challenge figures from the AGO and total business figures from the Australian Chamber of Commerce

⁷³ Environmental Manager, Issue No. 271, October 26 1999

⁷⁴ Lovins discusses this in the context of energy reform in California (Weizsacker 1997). Moskowitz also provided a detailed discussion on the issue at a workshop on regulating energy markets in Sydney 9 Feb 1999

⁷⁵ Marshall, 1998 Economic instruments and the business use of energy A Report by Lord Marshall, London

taxes and their economies remain strong.⁷⁶ Greenpeace supports the use of a carbon tax as the most direct way to provide economic disincentives for fossil fuel consumption.

Will increased energy prices drive Australian industry off-shore?

Some stakeholders have argued that increased energy prices or mandatory emission benchmarks would cause Australian industries to move operations to Annex B countries with no emission restrictions. This claim has been wildly inflated. The Aluminum industry in particular has used this threat on a number of occasions.⁷⁷

The likelihood of this happening to an extent that would impact on the Australian economy is extremely small. Only companies that are energy intensive and export oriented would find any potential benefit in moving off-shore. Most of Australia's industrial emissions come from transport, electricity production and the service sectors – all activities which cannot be moved off-shore.⁷⁸ Furthermore, energy prices are only one small consideration in a company's decision making process. Access to raw materials, an educated workforce, international transport costs and political and economic stability are all equally important.

Add to this the very real possibility that non-Annex B countries will be pressured to take on emission limits in Kyoto commitment periods after 2012, and the 'benefits' of moving off-shore rapidly disappear.⁷⁹ The risk of Australia losing industries overseas as a result of Kyoto compliance has been overstated and amounts to little more than the usual scaremongering and delay tactics.

⁷⁶ Crawford S 2000 Renewable Energy Policy – Learning form international Experience, A CIPSE Report, Sydney

⁷⁷ The Australia Institute 1999 Common Misconceptions in the Climate Change Debate Submission to Senate Environment References Committee Inquiry into Australia's Response to Global Warming

⁷⁸ *ibid.*

⁷⁹ *ibid.*