AID ***WATCH***

AID/WATCH Submission to the Joint Standing Committee on Treaties Inquiry into the Kyoto Protocol Dated 22 August 2000

Inquiry aims are as follows:

The Treaties Committee shall inquire into and report on whether ratification of the Kyoto Protocol on climate change is in Australia's national interest. The Committee will examine:

- The implications for Australia of proceeding or not proceeding to ratify 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.
- The veracity of conflicting current scientific theories on global warming and any solutions proposed for it.
- What definitions and criteria Australia should develop and actively pursue in its national interest with regard to:

- grandfathering,
- trading credits,
- carbon credits,
- sequestration,
- revegetation,
- land management, and
- definitions (eg "forest").

- 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.

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"...since the balance of scientific evidence suggests a link between climate change and human activity, we have a responsibility to take prudent precautionary action."
Cor Herkstroter, Chairman of the Committee of Managing Directors, Shell. Feb 1998

"From our point of view, what matters is not whether we are for Kyoto or against Kyoto. Our bias should be for prompt and meaningful action where there is reasonable cause for concern. And there is no question in our minds about whether there is reasonable cause for concern."
Dennis Reilley, DuPont. Sept 1999

".We've moved - as the psychologists would say - beyond denial . it does seem that there is an impact on the climate from human activity."
John Brown, Group Chief Executive, BP. Feb 1998

1. Introduction

AID/WATCH is a community based environmental organisation that has been campaigning to reduce Australia's greenhouse gas pollution since it was established in 1992. We have been doing this by being a supporter of the good work undertaken by groups such as Friends of the Earth (Fitzroy), Greenpeace (Australia), Australian Conservation Foundation, as well as being a member of the Climate Action Network Australia (CANA). Similarly, AID/WATCH has been part of a campaign by environment groups worldwide to slash greenhouse pollution and avoid the damaging impacts of global warming.

Additionally, AID/WATCH has campaigned for environmental considerations to be core when funding any development and aid projects internationally. As a donor for both bilateral and multilateral funded projects, Australia has an obligation to ensure that environmental considerations, including the impacts of global warming, be central when dealing with low-income nations.

The CSIRO predicts that if the emissions of greenhouse pollution continue, the impacts on Australia will be substantial:

- Coral bleaching may accelerate destroying much of the Great Barrier reef by 2040,
- bushfire danger is likely to increase across Australia,
- more coastal flooding is likely in NSW (and other places), and
- Australia may have no snowfields by 2070.

The impacts on low-income nations are already substantial. According to the UN-appointed Inter-governmental Panel on Climate change, human made greenhouse pollution is already changing the climate. The affects are emerging in increasing flood activity in low-lying areas, storms and cyclones that cost thousands of lives, and droughts that are decimating nations.

Reducing greenhouse pollution requires all sectors of the community to work together. Business, industry, civil society, government and private homes must become more efficient by using less coal-produced electricity, moving from coal power to clean renewable energy sources such as wind and solar, using more public transport and ending tree clearing.

Shifting to clean energy is not only good for the environment but can have many positive economic consequences. The sustainable energy industry in NSW is growing at 25 percent per year, faster than information technology and tourism. Clean renewable energy may well be the next boom industry after the computer revolution, providing Australia with the potential of a comparative advantage.

As a result, it is now more important than ever, that Australia supports the Kyoto protocol. Any decision not to support the Protocol, and improve Australia's commitment, is a snub to our international obligations. Likewise, Australia must ensure that all projects it funds internationally via the bilateral and multilateral aid budget, must be environmentally responsible and in the spirit of the Kyoto protocol.

2. Kyoto Protocol - the need for ratification

Globally, a timetable has been established to meet the obligations of the Kyoto Protocol. A number of key nations have agreed to ratify the Kyoto Protocol by 2002. It has always been assumed that the USA must ratify for the Kyoto protocol to enter into force. However, it is possible to enter into force without the USA as they only represent 31 percent of Annex 1-pollution emissions. The assumption of the need of the USA to ratify has been based on political rather than numerical assumptions. With movement by the other big players, the political tide now seems to have turned.

Many nations are now recognising that ratification is in their economic interests, otherwise they may be excluded from the cost effective "flexibility mechanisms" such as international carbon trading, joint implementation and the clean development mechanism. Despite this shift in political momentum, Australia still appears to lack the will to fully grip the Protocol – it is hoped that this review will be the impetus for a greater commitment. Combined with the fact that Australia now has the highest level of emissions per person in the industrialised world, internationally Australia is increasingly being viewed negatively as we continue to do nothing. The "Green Olympics" look kind of blue in front of this portrayal.

Australia should join the other countries that have ratified the Kyoto Protocol and commit to Australian ratification to assist the Protocol entering into force.

3. Policy Failure

Despite the growing international pressure to meet the Kyoto Protocol obligations by environmentalists, civil society, indigenous groups, forward thinking business communities, low-income nations and the Government's programs to reduce greenhouse pollution, emissions in Australia continue to rise. According to the Australian Greenhouse Office, Australia's emissions are now approximately 116.9

percent of 1990 emissions. In other words, Australia is now 8.9 percent over our Kyoto target already and continuing to rise.

Australia's 2 percent renewables target is not only far below international best practice, but its implementation, is still bogged down by opposition from the major fossil fuel producing and consuming industries two years after its announcement. Over the same two-year period Denmark has managed to increase its share of renewables, mostly from wind energy by a full 3 percent.

4. Impacts of Climate Change

As a large influence in South East Asia, it is important that Australia recognises that it has an obligation to lead the way in environmental protection. This is especially important in terms of the aid projects that Australia funds in both the bilateral and multilateral aid programs. This section summarises some of the impacts of climate change that can be expected on our neighbours.

i Extreme Weather Events

The most noticeable effects of climate change will not be a gradual warming. Instead, 'extreme events' such as severe drought, windstorms, flooding, thunderstorms, tornadoes, landslides, and storm surges will occur more frequently and with greater magnitude. As a result, people in many parts of the world are forced to live in more exposed and marginal areas.[1]

What does this mean for South East Asia?

In the Philippines, severe changes in climatic patterns have been apparent over the last few years. Characterised by irregular and intermittent typhoons and unbearable hot dry seasons, these variations threaten crop production, diminishing the country's food security. The number of typhoons and the corresponding damage has increased notably over the last few years. In fact, in the last decade the Philippines has averaged 19 typhoons a year. This has resulted in the massive displacement of people and the disruption of ecosystems.

During the mid-1990's, many countries in South East Asia have experienced drought. Rice crops are failing throughout the Asia Pacific region. Some farmers in Java are growing crops such as maize and cassava instead of rice as they require less water.2 It is anticipated that the drought conditions in South East Asia will only increase as climate change progresses. A United Nations report suggests that global warming will reduce food production, increase prices and cause new uncertainties about food supplies[3]. Significant declines in grain yields are forecasted for South East Asia (as well as for Africa, tropical Latin America and much of India)[4]. As a consequence of climate change, 60-350 million more

[1] The Straits Times. October 30, 1997. "Drought puts 150,000 in PNG at risk of starvation."
[2] The Guardian. September 29, 1997. "Severe drought in Java lost in Smog."
[3] The Guardian. September 29, 1997. "Severe drought in Java lost in Smog."
[4] Climate Time Bomb. Greenpeace International. 1994.

people worldwide will face the threat of hunger due to a decrease in global crop production.[5] Most of these people live in developing countries including countries in South East Asia.

ii Rising Seas

The global average sea level has risen by 10 to 25 cm over the past 100 years.[6] This sea level rise is most likely related to an increase of 0.3'C - 0.6'C in the global average temperature since 1860.[7] The rise is due to the thermal expansion of ocean water and an influx of water from melting glaciers. It is predicted that sea levels will rise another 15 to 90 cm by the year 2100 (with a best guess of 50 cm).[8]

How will people be affected by rising sea levels?

As more than 70 per cent of the world's population live on coastal plains, the potential for massive economic and physical dislocation becomes clear, even if sea levels rise only marginally.[9] Currently, about 46 million people in coastal areas are at risk by flooding as a result of storm surges.[10] If preventive measures are not taken, a 50-cm sea level rise will increase the number to about 92 million people.[11] A sea level rise of 1 meter could cause estimated land losses of 1% in Egypt, 6% in the Netherlands, 17.5% in Bangladesh, and 80% for Atoll Majuro in the Marshall Islands.[12]

Who will be the most affected?

Coastal zones and small islands are extremely vulnerable to sea level rise. Although they have done the least to cause climate change, Pacific, Caribbean and Indian Ocean island nations such as the Maldives, the Marshall Islands, and the Philippines, are the most likely to suffer. Developing countries with weak economies face the greatest risk. Low-lying coastal zones of developed countries could also be seriously affected.

How will rising seas affect South East Asia?

South East Asia is particularly vulnerable to rising sea levels due to its extensive and highly populated coastlines. As much as 20,000 kilometre^2 of land in Malaysia, Thailand and Indonesia could be threatened with flooding - including some of the most economically productive land in these countries.[13] The city of Bangkok for example, is within one meter of sea level.[14]

For countries of small islands such as the Philippines, entire islands with low-lying areas could be flooded. Parts of reclaimed areas in Manila and Cebu may become submerged. In turn, this could damage infrastructure, displace populations, and increase the salinity of ground water.

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[5] Rosenzweig, C., M. Parry. "Potential impact of climate change on world food supply." Nature, vol 367. January 13, 1994.
[6] Warrick R.A., et al. IPCC. Second Assessment Report WG1. 1996.
[7] Climate Change Information Kit. UNEP's Information Unit for Conventions. 1997.
[8] Warrick R.A., et al. IPCC. Second Assessment Report WG1. 1996.
[9] Climate Time Bomb. Greenpeace International. 1994.
[10] Climate Change Information Kit. UNEP's Information Unit for Conventions. 1997.
[11] Ibid.
[12] Ibid.
[13] Climate Change Dossier. Information Unit on Climate Change. UNEP/WMO. 1993.
[14] Ibid.

Why not build coastal defences for protection?

The cost of improving coastal defences against a sea-level rise of 20 cm will cost around US$4 million per kilometre.[15] Many South East Asian countries such enormous expenditures would be a serious economic strain. For Indonesia, with 80 000 kilometre of coastline, it would be economically impossible to protect it all.[16]

iii Ecosystems

The diversity of plant and animal life on our planet (often called biological diversity or bio-diversity) will be threatened by rapid climate change. As a result of global warming, climate zones are expected to shift 150 - 550 kilometre toward the poles.[17] For example, some types of forests will be forced to 'migrate' up mountains, or toward cooler regions. But the changes will be too fast for many ecosystems to adapt. Massive species extinction is expected.[18]

Which ecosystems will be the most affected?

Among the various ecosystems that will be affected by climate change are: forests, deserts, rangelands, mountain regions, and Polar Regions.

Forests - An increase of just 1'C in the global average temperature would affect the functioning and composition of forests causing entire forests to disappear[19]. Furthermore, forests will have to endure other stresses such as an increased number of fires and pests. Please note the following:

- Deserts - It is predicted that deserts will become hotter. Higher temperatures could threaten organisms that already exist near their heat-tolerance limits.
- Rangelands - Range lands will experience altered growing seasons affecting food production.
- Mountain regions - Mountain species and ecosystems will be forced to migrate to higher levels. Those species whose climatic ranges are already limited to the mountaintops may have nowhere to go and become extinct. This will disrupt the food and fuel resources of indigenous populations of many developing countries.
- Polar Regions - In the polar regions mountain glaciers are retreating and the Arctic ice cap is shrinking.[20] The animals that depend on ice as a platform such as the seals, walrus and polar bears, will be vulnerable due to loss of their habitat. It is possible that all the distinctive Arctic animals could disappear[21].

iv Coral Bleaching

Coral reef systems are extremely sensitive to sudden sea temperature changes. Coral thrives in water up to 28°C, but if exposed to temperatures just 2°C to 3°C higher - even for two or three days - the algae that live in the coral would be

[15] Ibid.
[16] Ibid.
[17] Climate Change Information Kit. UNEP's Information Unit for Conventions. 1997.
[18] Putting the Lid on Fossil Fuels. Greenpeace United Kingdom. 1997.
[19] Climate Change Information Kit. UNEP's Information Unit for Conventions. 1997.
[20] Climate Change and the Arctic; an Overview. Greenpeace USA. 1997.
[21] Ibid.

expelled. The coral's food and colour comes from the algae, so without the algae, the coral will die and turn white. This phenomenon is called *coral bleaching*.

It is alarming to note that nearly every reef system in the world is suffering from coral bleaching. Studies at the Florida Institute of Oceanography indicate that reefs in Australia, China, Japan, Panama, Thailand, Malaysia, the Philippines, India, Indonesia, Kenya, the Red Sea states, Puerto Rico, Jamaica, and the Bahamas have all been negatively affected.[22] This year's high temperatures and extreme rainfall have caused the worst coral bleaching in decades on the Great Barrier Reef off the coast of Australia, which is home to many endangered species.[23]

The IPCC states that the unprecedented extent and severity of coral bleaching over the last two decades is consistent with measured sea temperature increases. Moreover, it is extremely unlikely that the majority of coral reef organisms will be able to evolve quickly enough to keep pace with the predicted changes in sea temperature.[24]

v *How will climate change affect developing countries specifically?*

Developing countries are likely to be much more adversely affected than developed countries by climate change for several reasons. Compared to developed countries, developing nations have less resources, and weaker economies. Therefore developing countries face a greater challenge when adapting to climate change. To compound this, they have less access to the technology that could help them adapt. Furthermore, developing countries are often situated in drought-ridden regions, low-lying coastal areas, flood-prone areas, or on small islands, all of which are vulnerable to climate change. The high population densities of many developing countries will further increase the region's sensitivity to hazards such as storms, floods, and drought.

Some alarming impacts that developing countries can expect from climate change are:

- People dependent on isolated agricultural systems in drought-ridden regions face the greatest risk of increased hunger due to climate change. Many of those at risk live in Africa, South, East, and South East Asia, the Pacific islands, and areas of Latin America.
- Small island developing countries are considered to be among the most vulnerable to the effects of sea level rise from climate change.
- Agricultural production is very sensitive to climatic change. Decreases in rangeland productivity would result in a decline in overall contribution of the livestock industry to national economies. This would have serious implications for the food security of many developing countries and on the lives of thousands of farmers.
- In many developing countries, mountains provide food and fuel needed for human survival. Climate induced disruption of mountain systems would have

[22] Goreau, T., R. Hayes. USA.
[23] International Press Service. April 19, 1998.
[24] Hoegh-Guldberg, O., University of Sydney.

major consequences for people living in mountain environments. This is especially true for indigenous populations.

- Threats to health and loss of life will be mainly in developing countries. For example, reports suggest that global warming and the El Niño weather phenomenon could see Thailand hit by its worst incidence of deadly dengue fever in 40 years.[25]

vi How will climate change affect health?

The impact of climate change on human health will be severe. This is especially true for poorer communities that are less able to cope and have less access to health care services. Heat waves will become longer and hotter, which will mean that more people will die of heat stress, especially in places where air conditioning is not available. Floods, storms and drought will also become more frequent and extreme, causing an increase in cardiovascular and respiratory disease as well as an increased number of injuries, and deaths.[26]

Climate change will also have indirect effects on health that may be even more important in the long term. According to UNEP, climate change will likely disrupt food production, interfere with sanitation and contribute to social and economic dislocations.[27] This in turn will exacerbate many health problems that are already common in tropical countries such as diarrhoea, malnutrition and hunger, asthma, and other allergic disorders. Furthermore, warmer temperatures, reduced water supplies and proliferating microorganisms will increase food and water related diseases such as cholera and salmonellosis. [28]

Warmer temperatures will enable insects such as malarial mosquitoes to expand their range to higher latitudes and higher altitudes.[29] This could result in as many as 50-80 million additional cases of malaria per year - primarily in tropical and subtropical zones such as South East Asia.[30] Dengue fever and yellow fever will also increase in the same manner. In fact, as a result of drought, 400 people died in Indonesia of dengue fever in early 1998.[31]

vii What does El Niño have to do with climate change?

As we experience the impacts of what may prove to be the strongest *El Niño* event this century, attention has been drawn to the possibility that the behaviour of El Niño may be changing under the influence of human-induced climate change. The *El Niño-Southern Oscillation (ENSO)* events are a semi-regular climatic phenomenon involving regional interactions between the ocean and the atmosphere.[32] The resulting climatic fluctuations alter the tracks of cyclones, cause droughts and floods, and on an inter-annual basis, increase global temperatures. The 1982/83 ENSO event was the strongest of this century and one

[25] Agence France Press, April 24, 1998.
[26] Climate Change Information Kit. UNEP's Information Unit for Conventions. 1997.
[27] Ibid.
[28] Ibid.
[29] Ibid.
[30] IPCC WGII. Summary for Policy Makers.
[31] BBC, May 1998.
[32] Climate Change Information Kit. UNEP's Information Unit for Conventions. 1997.

of the most costly, affecting more than two billion people.[33] The 1997/98 ENSO event may prove to be stronger still.

The unusual behaviour of El Niño in recent times has prompted considerable speculation over what lies behind recent events, and in particular, over the possible role of human induced climate change.

There is considerable concern that climate change and global warming will increase the severity and frequency of ENSO events. Studies at the Macquarie University Climate Impact Centre in Sydney show that ENSO could get stuck in a permanent warm phase if climate change warms the equatorial Pacific.[34]

What does this mean for South East Asia?

Indonesia has been brought to the brink of national crisis in part by the 1997/98 El Niño related drought.[35] The country is facing its worst drought in 50 years.[36] In fact, much of Asia faces serious problems due to El Niño-related droughts. Some of the countries that have been the most seriously affected are China, the Philippines, Thailand and Papua New Guinea.[37]

In the Philippines, the effects of the 1997 El Niño seriously damaged at least 431,670 hectares of agricultural land affecting 202,699 families on the island of Mundane. Now about two million individuals face hunger in Mundane.[38] Meanwhile in Thailand, abnormally hot weather due to the El Niño phenomenon is causing a rise in diseases like dengue fever and severe diarrhoea.[39]

It is important to note that whilst the above examples have been attributed to El Niño, the impacts of climate change will produce almost exactly the same effects.

Marine mammals are also reeling from the effects of the El Niño weather phenomenon. El Niño has the potential to alter the migratory patterns of dolphins and whale sharks, causing the animals to become disoriented and beach themselves.[40] Many marine mammals are becoming endangered, not only because of man's illegal activities but also because of the heat.[41]

While the forest fires in past years South East Asia have generally been attributed to El Niño and its effects (eg. drought), studies have also shown that less rain and more drought brought on by climate change will bring an increased risk of bush and forest fires. One does not have to look very far to find evidence of this. Drought-induced fires, the worst in Indonesia's history, blanket Singapore, the Malay Peninsula and the South China Sea with smoke.

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[33] Bell, A. "El Niño and Prospects for Drought Prediction". ECOS, vol 49, Spring 1986.
[34] Henderson-Sellers, A. and Blong, R. The Greenhouse Effect; Living in a Warmer Australia. 1989.
[35] International Press Service. April 22, 1998.
[36] The Times. September 22, 1997. "Southern Africa faces return of drought".
[37] Ibid.
[38] Tabing, C. of the Citizens Disaster Response Centre. Letter to Philippine Daily Inquirer. April 28, 1998.
[39] Deutsch Presse-Argentur, March 17, 1998.
[40] Philippine Daily Inquirer. April 27,98. "El Niño exacts toll on sea mammals".
[41] Ibid.

The toxic smog arising from the fires spread over 3,200 kilometre of South East Asia, affecting six countries and perhaps 70 million people.[42] The total health, ecological and economic implications arising from the fires are incalculable. Already millions are suffering from respiratory ailments and eye problems while cancer-causing chemicals (such as polycyclic aromatic hydrocarbons) in the smog could result in early death for many.[43]

The smoke is not the only problem. Many rare plants and animals have gone up in flames. Others have perished due to high temperatures. For example, the survival of the rare Sumatran rhinoceros and the endangered orangutan in Borneo Island are at risk.

Since the mid-1980s, an unprecedented number of intense fires have destroyed forests and homes across most continents. In Guatemala, severe drought and strong winds have allowed forest fires to spread rapidly. In Brazil fires are burning up the Amazon rainforest. The immense smoke clouds over the Amazon cover millions of square miles, an area even larger than the burning forests of Indonesia[44].

5. Sceptics are out of touch

The newly established "Lavoisier Group" is a move to discredit climate change science and bring together business groups in opposition to limiting greenhouse pollution. These 'climate sceptics' have not only being condemned by environmentalists, but also fly in the face of the hundreds of global business players who gathered at the World Economic Forum's Annual meeting in Davos this January.

In essence, this group is an embarrassment for Australian industry, appearing five years behind the facts. Their real agenda is not to clarify the debate, but to avoid responsibility for their greenhouse pollution. Climate change is accepted as a reality by leading industry in America and Europe.

It is quite easy to draw comparisons with the American "Global Climate Coalition" (GCC) which has been struggling to retain its membership over the last few years. The GCC has lost major members such as Ford, BP and Shell, because many businesses around the world now accept that they have to become part of the solution to climate change.

The establishment of a group such as the Lavoisier group at a time when businesses, world leaders and the community are getting on with the job of cutting greenhouse pollution. It is hoped that this current review is not a knee-jerk reaction to this business lobby group, and their position is put into context of emerging world events.

[42] The Economist. October 4, 1997. "When the Smoke Clears in Asia".
[43] Troubled Waters; El Niño and Climate Change. Greenpeace International. 1997.
[44] Montreal Gazette, October 4, 1997.

6. Whose science?

Climate sceptics are a handful of scientists, mostly directly subsidised by the fossil fuel lobby and promoting what numerous mainstream scientists regard as blatant misinformation on climate science. Although most lobby groups promote various views of scientific evidence, these sceptics are amongst the most dangerous as they are contesting the urgent need to tackle the problem of global warming.

Most of the sceptics have neither the credibility nor the science to mount a realistic challenge to the consensus of 2,500 scientists - including eight Nobel Laureates - who comprise the UN Inter-governmental Panel on Climate Change (IPCC). Whilst some of the sceptics are credible scientists they have chosen to align themselves with one side of the debate over global warming and have promoted viewpoints which have been found to lack credibility. However, many of the sceptics have been able to access industry funding in order to promote their on-going work aimed at undermining the UN Climate Summit in Kyoto.

During 1997, most of the world's major oil, coal and automobile multinationals have gathered forces behind a host of industry front groups and mounted a multi-million dollar campaign world-wide to derail agreement on global climate protection. One single US advertising and internet initiative alone repeatedly cost US $13 million. A few weeks before the Kyoto summit, several members of this small group of sceptics were known to be on a world tour. This was part of an increasingly intensive campaign, reinforced by the fossil-fuel and automobile industries backed campaign in order to prevent any mandatory CO_2 or other greenhouse gas emissions being agreed at that meeting.

The so-called science on which most of the sceptics base their arguments is in the main a combination of deliberate misrepresentation of IPCC reports, contextual inaccuracy and unsubstantiated conclusions.

In it's Second Assessment Report, the IPCC concluded: "the balance of evidence suggests... that there is discernible human influence on global climate". This statement is a negotiated agreement amongst governments, including Saudi Arabia & Kuwait, based on the IPCC scientific reports. Many of the lead scientists wanted stronger findings reported but were over-ruled by governments as a result of heavy pressure from the OPEC countries and the Global Climate Coalition.

The tide would appear to be turning against the sceptics; their statements and arguments are being seen for what they are. This brief is intended as further rebuttal to their misinformation.

Uncertainty - which of course has a very specific meaning in science - is inherent in any scientific experiment or model. As is standard practice, the question of accuracy is fully discussed by the IPCC and presented within a clearly defined range. Despite this, the sceptics emphasise the uncertainties. The IPCC Chair, Emiritus Professor Bert Bolin, has taken great care to emphasise 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 basis for action.

Many sceptics also argue that there is no evidence of the greenhouse effect. It is simply not true that there is no evidence to attribute recent warming to an enhanced greenhouse effect. It is true that the much-hyped statement "the balance of evidence suggests that there is a discernible human influence on global climate" in the Policy Makers Summary of the IPCC's Working Group I report is a product of political negotiation. It is however, the minimum the scientists would accept and many of the lead authors preferred a stronger conclusion.

The IPCC found that whilst there is "already limited evidence for the existence of an anthropogence climate signal", it also pointed out that few would be willing to argue that completely unambiguous attribution of (all or part) this change has already occurred." (IPCC WGI Chapter 8, pp 438-443). The observed patterns of change are not consistent with either solar variations or volcanic effects.

The IPCC has found that there is incontrovertible scientific evidence exists showing that the increase in CO_2 levels since pre-industrial times is due to human activities. The 25% increase in CO_2 concentration since pre-industrial times is due to human activity. The effect of this and the increase in other greenhouse gases is significant.

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. It is intellectually dishonest to categorically make such blatantly inaccurate claims, given the weight of evidence to the contrary.

Although all models have limitations, climate models are NOT known to be wrong, despite the assertions of sceptics. On the contrary, they are proven to be increasingly successful at reproducing trends in the behaviour of the climate back to when records began - and before. This in turn gives confidence in the models to predict future climatic trend. Different models give varying results because they use different physical mechanisms to represent the respective interactions of the key climatic influences that they are studying.

There are also claims that the impact studies deriving from global climate model (GCM) experiments completed prior to the Earth Summit in Rio in June 1992 are now outdated. GCM experiments in the last two to three years yield slightly lower estimates of global warming. The reason for these differences are two-fold, neither of which is related to 'errors' in the models. Far from being "model errors", these factors depend on what a priori assumptions are made about the future world economy. First, different emissions scenarios are being used to force the models and, second, the effects of sulphate aerosols are now being simulated in addition to the effects of greenhouse gases. New impact studies are being performed which use these later scenarios.

7. The implications for Australia of not proceeding to ratify the Kyoto Protocol

Rather than presenting a detailed analysis of the implications to Australia in failing to ratify the Kyoto Protocol, we will present some broad policy implications:

- Environmental
    - There will be a failure to meet our obligations as part of the international community in dealing with a shared problem.
    - Australia will lose the ability to criticise other nations in their failings to comply with other treaties, including the Universal Declaration of Human Rights.
    - We are failing to address one of the central issues facing this generation.
- Economic
    - The potential economic gains will be extremely short term and Australia will miss the opportunity to establish a comparative advantage in cleaner technologies. As other nations develop technology based on renewables, Australia risks becoming termed the "coal pushers" of the developed world.

Even before Kyoto there was considerable international scepticism about Australia's role and contribution to international efforts on climate change. The scepticism came not only from national governments that, arguably, had a measure of self-interest in criticising the performance of Australia, but also from environmental organisations. For example, in November 1997, the Worldwatch Institute - a respected international environmental policy research organisation - released a ranking of the relative strength of climate policies in 10 industrial countries. The ranking was based on an assessment of the countries' climate policies in six policy areas, rating them on a scale of 1 to 4. The challenge for us all then, governments, industry and the broader community, is to show the rest of the world, through our actions, that Australia is serious about tackling its greenhouse gas emissions.

8. Whose Inquiry?

When this inquiry was announced, AID/WATCH received a number of calls from supporters and members who requested that we immediately respond. The thrust of the demands of our constituents is that this inquiry appears to be a knee-jerk reaction to the lobbying of the aforementioned "front" groups. As the terms of sustainable development and precautionary principle continue to be at the forefront of the national psyche, any attempt to ignore the hard work achieved in Kyoto can only be termed disgraceful. As a result, we demand that not only to you meet our obligations and ratify the Kyoto Protocol, but provide an adequate explanation why, at this point, these obligations are absurdly questioned.

This request is made in the interest of transparency and good governance.

9. Recommendations

As a result, it is the recommendation of this organisation that the Kyoto Protocol be fully ratified by the Australian Government. If anything, the targets should be reviewed to be more aggressive with declines aimed for by the year 2008.

AID/WATCH also recommends that any moves to label nuclear technology as an alternative to renewable energy, and hence not subject to greenhouse measures, be rejected.

10. Who is AID/WATCH?

AID/WATCH is a community-based, not for profit, activist group that campaigns on Australian involvement in overseas aid and development projects, programs and policies. As we 'Monitor the Development Dollar', we work to ensure that aid money reaches the right people, communities and their environments.

AID/WATCH works in conjunction with support partner groups and communities in low-income countries, predominantly in the Asia-Pacific, where people are adversely affected by Australian development activities. This may occur through bilateral aid programs, multilateral development banks to which Australia contributes such as the World Bank, the International Monetary Fund and Asian Development Bank, and Australian corporations including the government-owned Export Finance and Insurance Corporation.

The flow of aid money can be positive particularly in programs of emergency relief and health. However, aid development projects can often have significantly detrimental impacts that are felt by communities overseas. When this occurs, it is in the donor country that the decisions are made that lead to them. So while AID/WATCH supports communities overseas, we also aim to inform the Australian community of how their aid dollar is being spent and what impact it is having. AID/WATCH believes that increased awareness of the reality of international aid will lead to aid programs that truly benefit the local population.

To support people and communities in low-income countries to determine their own development futures; to ensure that aid money reaches the right people, communities and their environments, and that aid projects are implemented with stringent environmental, ethical, social and cultural guidelines.

AID/WATCH works to inform the public where their aid dollar is being directed. We actively encourage implementation of true ecological and socially sustainable reforms.

We watch and report on misuse and mismanagement of development resources.