

**GREENPEACE AUSTRALIA SUBMISSION TO THE 'DRAFT REPORT'-
IMPLEMENTATION OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT BY
COMMONWEALTH DEPARTMENTS AND AGENCIES.**

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Five pages in total

Climate Change and Fossil Fuels

PREAMBLE

It comes as no surprise that changes in climate present a serious threat to the well-being of society and the environment.

The Earth's surface is surrounded by a natural blanket of carbon dioxide (CO₂) and other 'greenhouse' gases which prevent heat from escaping, and keep the Earth's temperature at a level which is capable of supporting plant, animal and human life. Since the start of the industrial revolution, the amounts of CO₂ released into the environment have risen dramatically, causing the blanket to thicken. Put simply, the world is warming up, and it is doing so too fast.

Caused predominantly by the burning of fossil fuels (coal, oil and natural gas), as well as deforestation, the increase in global temperature is the driving force behind rising sea-levels and such impacts as the 'bleaching' of coral on the Great Barrier Reef.¹ 1998, as the hottest year on record, saw thousands of kilometres of the Reef suffer coral bleaching.

As the world's leading authority on climate change, the United Nations Intergovernmental Panel on Climate Change (IPCC) has noted, 'Storm-surges and flooding could threaten entire cultures...sea level rise could force internal or international migration of populations...climate change is likely to have a wide-ranging and mostly adverse effect on human health, with significant loss of life.'

¹ Global mean temperature has risen by 0.3-0.6⁰C in the last century; if no action is taken, global temperature is expected to rise by a further 1-3.5⁰C over the next century: Nicholls N, Gruza G V, Jouzel J, et al, 1996, *Observed Climate Variability and Change* and Kattenberg A, Giorgi F, Grassl H, et al, 1996, *Climate Models - Projections of Future Climate* in Houghton J Y, Meira Filho L G, Callander B A, et al (eds) *Climate Change 1995, The Science of Climate Change*, Cambridge University Press, Cambridge: 133-192

The IPCC sees Australia as being a particularly vulnerable region because of its geographic location, scarce water supply, and the fact that many of its crops grow at or above optimal temperatures.² Climate change could induce the spread of tropical pests and diseases such as Ross River virus and malaria, as well as posing considerable threat to Australian fauna and flora. Other likely impacts range from an increase in urban pollution, asthma and allergies.³

In 1997, the importance of the issue was addressed at the Kyoto Conference, where it was recognised that 'the human consequences - and the economic costs - of failing to act [on climate change] are unthinkable.'⁴ Following on from the 1992 Rio Earth Summit's Framework Convention on Climate Change, the Kyoto Protocol calls for the world's governments to prevent dangerous climate change and signals the beginning of a global fossil fuel phase out. This is an important first step, but it is binding only until 2012, and emissions are to be cut by only 5.2 per cent in comparison with 1990 levels. Alarmingly, while most other industrialised nations committed themselves to a reduction in greenhouse gas emissions, Australia's Federal Government instead made a commitment to limit its greenhouse gas emissions to an 8% *increase* on 1990 levels.⁵

Nevertheless, in 1998 the National Greenhouse Strategy was introduced, in which the Federal Government identified the limitation of greenhouse gases as being of the utmost priority. The NGS is the cooperative product of Federal, State and Local Governments, with involvement by industry and non-governmental organisations. Under the supervision of the also recently established Australian Greenhouse Office, the NGS aims to foster knowledge and understanding of greenhouse issues, and lay the foundations for adaptations to climate change.⁶

But mere rhetoric and policy will not suffice. In order to make a difference, it's imperative that governments set about implementing substantial changes to address this urgent issue.

² Basher R E, Pittock A B, Bates B, et al, *Australasia in Regional Impacts of Climate Change*, IPCC Special Report, accepted by the IPCC XII Session, Maldives, 22-28 Sept 1997.

³ Basher, et al, *supra*

⁴ Al Gore, Vice President of the United States, December 8, 1997, Kyoto, Japan

⁵ The EU, Switzerland, Liechtenstein, Monaco, Bulgaria, Romania, the Czech Republic, Estonia, Latvia, Lithuania and Slovenia committed to reducing levels by 8%; the US and Japan committed to reductions of 7% and 6% respectively; of industrialised countries, only Iceland, at a 10% increase, was higher than Australia.

FOSSIL FUELS ARE THE REAL ENEMY

In 1990 the United Nations Advisory Group on Greenhouse Gases set the limit at which temperatures could rise, while still protecting ecological and human systems, as being 0.1°C per decade. It estimated that even an increase of 1°C could lead to ‘rapid, unpredictable and non linear responses that would lead to extensive ecosystem damage’, while a 2°C increase would be the ‘upper limit’ the environment could take before risking ‘grave damage to ecosystems’. In order to ensure that global temperatures do not rise above 1°C, atmospheric CO₂ needs to be stabilised to no more than 350 parts per million volume (ppmv).

Greenpeace has detailed this analysis in its attached document, ‘Fossil Fuels and Climate Protection: The Carbon Logic’. We would like to include this document as part of this submission.

This sets a limit to the amount of CO₂ able to be emitted to the atmosphere at 225 billion tonnes. On the basis of this figure, the world’s carbon budget will be exhausted within 40 years. Ironically, industry already has four times the ‘safe’ amount in store, so that in fact *three quarters of the world’s currently available carbon can’t ever be used*. Heinz Rothermund, former Managing Director of Shell UK Exploration and Production stated in 1997, in reference to this analysis, ‘Greenpeace raises a key question: In how far is it sensible to explore for and develop new hydrocarbon reserves, given that the atmosphere may not be able to cope with the greenhouse gases from the utilisation of the hydro-carbon reserves discovered already? Undoubtedly there is a dilemma.’⁷

At the same time, the mining and drilling of coal, gas and oil are not only an example of futile stockpiling, but these processes are encouraged and even subsidised by the very governments which purport to be committed to halting greenhouse gas emissions. Clearly instead of throwing yet more money at industries committed to extracting something that can never be used,⁸ fossil fuels need to be phased out, in favour of ecologically sustainable renewable energy sources.

⁶ see *Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies*, Feb 1999, Australian Government Publishing Service, 202ff.

⁷ 19 May, 1997, quoted in Hamilton K, *The Oil Industry and Climate Change*, A Greenpeace Briefing, Greenpeace International, Amsterdam, 1998, p7

⁸ For example, the Stuart Shale Oil Project would not be financially viable without the \$240 million which the Federal Government has granted in the form of excise exemptions.

WHAT ARE THE ALTERNATIVES?

Any suggestion that the sources of energy with which we are most familiar are to be phased out must of course also be accompanied by realistic alternative energy sources. Fortunately progress has already been made in this area, and yet more is possible with concerted government assistance.

Solar and wind energy are the main sources of readily available renewable energy. There are already wind farms producing enough energy worldwide to power five million homes. Denmark in particular is leading the way in this field, aiming to have 50% of its electricity from wind by 2030. Wind turbines are already Denmark's third largest export industry.

Australia's sunny climate makes it perfect for better utilising solar energy. Until now, however, a lack of government commitment in this area has meant that development has stagnated while other countries, many with resources less suited to going solar, have made it a greater priority. Though the Netherlands is not a particularly sunny location, its Government plans to support the construction of 3000 solar homes by 2000, 100, 000 by 2010 and half a million by 2020.⁹ In Greece, construction of a major solar site, which commenced in 1998 and is intended to be completed by 2003, will result in 180 times more grid connected solar power than is currently installed throughout Australia. By the end of 1999, Japan's solar market will be seventy times Australia's,¹⁰ with 10, 000 solar powered plants built or in development, and residential sales expected to reach A\$1.15 billion. In June 1997, United States President Clinton committed to '...work[ing] with businesses and communities to use the sun's energy to reduce our reliance on fossil fuels by installing solar panels on one million more roofs around our nation by 2010. Capturing the sun's warmth can help us to turn down the Earth's temperature.'¹¹

On an average day, Australia sees enough sunshine to provide 25 times the nation's yearly needs,¹² yet the potential of this resource is vastly under-utilised, with a budget of only \$3.1 million being allocated to photovoltaics (PV) in 1996. Meanwhile, an enormous \$2.5 billion is the figure suggested for building a commercial scale oil shale industry. In the face of climate

⁹ The PV Programme, 1997-2000, in the Netherlands, NOVEM.European Solar PV Conference, Barcelona, June 1997

¹⁰ 1997 saw a 51% increase in funding allocated.

¹¹ US President Clinton, UNGASS (The Third UN Summit on the State of the Environment), June 1997

¹² 'The little yellow book – Some simple facts about solar electric lighting', Shower Solar, 1996

change, this is not only an ecological travesty, but a waste of money which could be put to much better use. If \$880 million¹³ were instead diverted towards renewable energy resources, the cost of solar energy would be brought down to a quarter of its current cost making it cost competitive with traditional forms of energy generation, as well as being a major source of job creation.¹⁴

CONCLUSION

The Earth's climate is changing at a rate that threatens human economic and social structures as well as ecological systems. The cause of this change has been identified – the burning of fossil fuels. We need to establish the medium term aim of phasing out our use of fossil fuels. The solution to part of the problem has also been identified – greater reliance on alternative forms of energy. More specifically, solar energy is being seen around the world as a way for the future. It has been observed that 'all the worlds energy could be achieved by solar many thousands of times over.'¹⁵ Rather than clinging to obsolete technologies and energy sources, the Australian Government should promote steps to take advantage of Australia's environment and domestic expertise¹⁶ and seek to become a world leader in this domain.

ENCL: Fossil Fuels and Climate Protection: The Carbon Logic

'Going for Gold': Pacific Solar

NOTE: These attachments are available for inspection at the Commission's Melbourne and Canberra Libraries.

¹³ A Study of the Manufacture at 500MWp p.a. of Crystalline Silicon Photovoltaic Modules. T M Bruton, BP Solar International, et al. 1997

¹⁴ The US Department of Energy estimates that every US\$100 million of PV sales will create or support up to 3,800 well-paying jobs. The US Million solar homes proposal is expected to create 70,000 jobs.

¹⁵ Roger Booth, Head of Renewable Energy Supply and Marketing, Shell, February 1995.

¹⁶ Enclosed is a copy of a Pacific Solar analysis for developing a solar energy industry in Australia.