



CLIMATE ACTION NETWORK AUSTRALIA



10 May 2003

**Submission to the House Select Committee on the recent Australian bushfires  
Relationship between climate change and bushfires**

Dear Committee members,

This submission is made on behalf of Climate Action Network Australia (CANA) and Greenpeace Australia Pacific.

**Who are we ?**

Climate Action Network Australia (CANA) is an alliance of over 25 regional, state and national environmental, health, community development, and research groups from throughout Australia.

CANA was formed in 1998 to be the Australian branch of a global network of climate action organisations, which has representative groups in over 70 nations.

Greenpeace is a non-profit organisation, with a presence in 40 countries across Europe, the Americas, Asia and the Pacific. To maintain its independence, Greenpeace does not accept donations from governments or corporations but relies on contributions from individual supporters and foundation grants.

As a global organisation, Greenpeace focuses on the most crucial worldwide threats to our planet's biodiversity and environment. Greenpeace campaigns to stop climate change, protect ancient forests and the oceans, eliminate toxic chemicals and encourage sustainable trade and agriculture.

## Introduction

It is now accepted that since the industrial revolution, the burning of fossil fuels has led to an increase in atmospheric concentrations of carbon dioxide. This in turn has led to a perceptible increase in global temperatures which are predicted to result in changes to the global climatic system. In 2001 the United Nations Intergovernmental Panel on Climate Change (IPCC) in its Third Assessment Report found "new and stronger evidence" that human activity is influencing the climate largely through burning fossil fuels such as coal, oil and gas.<sup>1</sup> Climate change is predicted to have far reaching and on balance negative economic, social and environmental consequences. Human health and settlements, agriculture, forestry, biodiversity, water and coastal resources will be affected.

Since global climate change is predicted to affect temperature and precipitation patterns it is also likely to affect bushfire regimes.<sup>2</sup> Research published earlier this year revealed that the 2002/03 drought had been exacerbated by record high temperatures resulting in record evaporation rates and drying of vegetation in parts of Australia.<sup>3</sup> The exceptionally dry conditions are thought to have, in part, influenced the severity of the bushfires, particularly in Canberra.

Even the Prime Minister has publicly made the link between the Canberra bushfires and drought. On ABC Radio on the morning of January 20, Mr Howard said:

*"I do know... that we are in eastern Australia experiencing probably the worst drought in a hundred years and the severity of that drought has contributed enormously to the precarious tinderbox nature of the environment and you can imagine what happened at the weekend was a freakish conjunction of a very hot day, bad winds, dry undergrowth, all of those things coming together in a quite uncontrollable fashion."*

## Climate change and bushfires

Williams *et al.*, (2001)<sup>4</sup> recently conducted a detailed study on the links between climate change and bushfire danger. The study investigated the "fire danger scenario" in a "doubled-

---

<sup>1</sup> IPCC (2001) Third Assessment Report - WG I Climate Change 2001: The Scientific Basis, Summary for Policy Makers. See <http://www.ipcc.ch>

<sup>2</sup> Williams A.A.J., Karoly, D.J. and Tapper, N. (2001), "The Sensitivity of Australian Fire Danger to Climate Change", *Climatic Change*, Vol. 49:171-191, Kluwer Academic Publishers, Netherlands.

<sup>3</sup> Karoly, D.J., Risbey J. and Reynolds, A. (2003) Global warming contributes to Australia's worst drought, WWF Australia.

<sup>4</sup> Williams, A.A.J., Karoly, D.J. and Tapper, N. (2001), "The Sensitivity of Australian Fire Danger to Climate Change", *Climatic Change*, Vol. 49:171-191, Kluwer Academic Publishers, Netherlands.

CO<sub>2</sub>” world. In such a scenario, changes to the following fire variables were identified: seasonality, daily variability, seasonal variability, and sensitivity to changes in each of the fire variables.

The study concluded that a doubling of CO<sub>2</sub> would have a “significant effect” on fire danger by increasing the number of days of very high and extreme fire danger. The degree of impact would vary across the Australian continent. The study assessed the implications of a doubled-CO<sub>2</sub> fire regime for different ecosystem types, and reached the following conclusions:

- For the south-west forest region, the fire season becomes more severe. Nearly half of the days in the fire season have ‘very high’ or ‘extreme’ fire danger, with the occurrence of ‘extreme’ conditions doubling.
- For the Victorian mallee region, “the seasonal fire danger increases throughout the region, and there are many more occurrences of ‘extreme’ FDI”. The “fire season becomes shorter and more severe”.
- For the wet-dry tropics, there are “many more occurrences of extreme fire conditions in the north... but the change in overall fire season severity is greatest in the southern reaches of the zone”.
- For the central Australian rangelands, the “fire season is longer, more severe, and the bi-modal nature of the season is even more pronounced. The mean seasonal fire danger increases”. When these impacts are combined with predicted increases in lightning activity, “the effect of global warming on fire danger is likely to be even more significant”.

## **Recommendations**

CANA and Greenpeace recommend that:

- The Committee recognise in its report that human-induced climate change has already begun to affect bushfire danger in Australia. The risk of bushfires will increase if we move towards a “double-CO<sub>2</sub>” world.
- The Committee request relevant Government Agencies to assess the link between climate change and bushfire danger, and to incorporate this assessment into the development of any plans regarding bushfire prevention and response. In other words, any plan relating to bushfires should include appropriate assessment of additional fire risk resulting from climate change.
- The Committee request relevant Government Agencies to take appropriate action to prevent or alleviate climate change. In other words, “prevention mechanisms” relating to climate change will need to be introduced in order to minimise future increases in fire risk.

- The Committee recognise that further scientific research is required into the link between climate change and bushfire risk in Australia, and that such research is an important step in the development of successful bushfire prevention and mitigation strategies.

Yours sincerely,

Philip Freeman  
Legal Officer  
Climate Action Network Australia  
PO Box 281 Maroubra NSW 2035  
phil@cana.net.au  
0411 333663

Dr Frances MacGuire  
Team Leader  
Climate Campaign  
Greenpeace Australia Pacific  
GPO Box 3307, Sydney NSW 2001  
frances.macguire@au.greenpeace.org  
0419 179 529