RESOURCE MANAGEMENT IN ASIA-PACIFIC PROGRAM
PRESENTS:

THE AUSTRALIAN NATIONAL UNIVERSITY

RMAP RESEARCH SEMINAR

LET THEM NOT EAT: CO_2, FOOD AND CLIMATE

Mr Tim Curtin

Canberra-Based Economist

12.30-1.30pm Thursday 29 April 2010 - Seminar Room B, Coombs Building

Abstract

This seminar challenges the quasi-Malthusian assumption going back to Wigley (CRU-UEA & CSIRO, Tellus 1993) and maintained by Sokolov et al (MIT, 2009), that there is a fixed limit to the volume of CO_2 emissions that can be absorbed by land and ocean biospheres. Wigley's assumption is central to the MAGICC models relied on by IPCC to project global climate to 2100, as it results in more than doubling the projected rate of growth of the atmospheric concentration of CO_2, from the actual 0.4% (1958–2009), to 1% p.a (2000–2100).

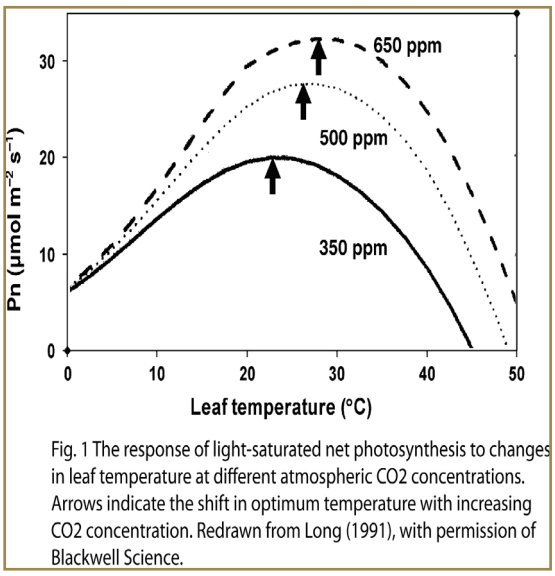

Fig. 1 The response of light-saturated net photosynthesis to changes in leaf temperature at different atmospheric CO2 concentrations. Arrows indicate the shift in optimum temperature with increasing CO2 concentration. Redrawn from Long (1991), with permission of Blackwell Science.

This seminar shows there is no evidence to support the Wigley assumption, and provides counter-factuals for no such evidence being likely to emerge in future, including regression analysis of the impacts of temperature and atmospheric CO_2 on forestry, fisheries, and agriculture. Its data on incremental CO_2 content of increases in world food production per capita since 1960—e.g. over 40 percent of the world's daily cereal intake embodies carbon—shows how reducing CO_2 emissions to 40 percent of the level in 2000, is likely to reduce world food consumption pro rata. Policy implications of such unintended consequences of the drive to eliminate anthropogenic CO_2 emissions conclude the seminar.

Bio: Tim was born in India 1937, brought-up and schooled in South Africa, BA at UCRN and M.Sc (Econ) at LSE. Economics lecturer UZim and York 1964–70, economic adviser 1970–99 Ford Foundation (Arusha), Lonrho (London), EU (Nairobi, Cairo, Lagos) and WB/GoPNG (Port Moresby); Visiting Fellow NCDS-ANU 1999–2002.

enquiries: jacqueline.dechazal@anu.edu.au or 6125 3343

ANU COLLEGE OF ASIA & THE PACIFIC