

Climate Change *Fact Sheet*

Produced by:

**Social Action
Office**

**Conference of
Leaders of Religious
Institutes
Queensland**

PO Box 8304
Woolloongabba Q
4102

Phone:
(07) 3891 5866

Fax:
(07) 3891 6944

Email :
sao.clriq@bigpond.com

We're on the Web!

See us at

sao.clriq.org.au



June 2002

The Church and Climate Change



The activities of twenty-five percent of the world's population are responsible for almost seventy-five percent of the global emission of greenhouse gases. Global warming, as it is popularly called, is global in scale. It recognizes no boundaries, no nationalities, no cultural divides. It is the great equalizer with unpleasant consequences.

These words from **Archbishop Renato Martino**, the Permanent Observer of the Holy See to the United Nations (UN), were used in an address to the UN on 28 November 2001. The Archbishop focused on the environment, sustainable development and protecting the global climate for present and future generations of humankind. He used information from the UN's Intergovernmental Panel on Climate Change (IPCC) to inform his call for action on the crisis of climate change.

The Archbishop, quoting from the IPCC, said that *"there is a new and stronger evidence that most of the warming observed over the last fifty years is attributed to human activities"*.

The Archbishop's involvement in an issue such as climate change is consistent with **Pope John Paul II's** call to the faithful in 2001 to support an 'ecological conversion':

(Humanity), especially in our time, has without hesitation devastated wooded plains and valleys, polluted waters, disfigured the earth's habitat, made the air unbreathable, disturbed the hydrogeological and atmospheric systems, turned luxuriant areas into deserts and undertaken forms of unrestrained industrialization.

We must therefore encourage and support the "ecological conversion" which in recent decades has made humanity more sensitive to the catastrophe to which it has been heading. (Humanity) is no longer the Creator's "steward", but an autonomous despot, who is finally beginning to understand that (it) must stop at the edge of the abyss... At stake, then, is not only a "physical" ecology that is concerned to safeguard the habitat of the various living beings, but also a "human" ecology which makes the existence of creatures more dignified, by protecting the fundamental good of life in all its manifestations and by preparing for future generations an environment more in conformity with the Creator's plan.

It is not a question of whether the Earth's climate will change, but rather by how much, how fast and where.



New reports released by the CSIRO in May 2001 predicted severe weather changes and consequences for Australia.

Australia has had its hottest April on record, according to the Australian Bureau of Meteorology.

*- ABC News
Saturday 4 May 2002*

Climate Change – What is it?

- Climate is the average weather in a particular region.
- Climate change names the fact that our climate is not static.
- Natural climate change occurs but, in our industrialised era, the activity of human beings adds another critical factor to the global climate system.
- Human-induced climate change is perhaps the most serious environmental threat facing humanity in the twenty-first century.
- It is undisputed that the last two decades were the warmest in the twentieth century, indeed the warmest for the last 1000 years – sea level is rising, precipitation patterns are changing, Arctic sea ice is thinning and the frequency and intensity of El Niño events appear to be increasing.
- Recognising the problem of accelerated climate change, the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. It is open to all members of the UNEP and the WMO. The role of the IPCC is to assess the scientific, technical and socio-economic information relevant for the understanding of the risk of human-induced climate change. It does not carry out new research nor does it monitor climate related data. It bases its assessment mainly on published and peer reviewed scientific technical literature.

The Earth's climate system has demonstrably changed on both global and regional scales since the pre-industrial era, with some of these changes attributable to human activities. There is new and stronger evidence that most of the observed warming of the past 50 years is attributable to human activities.

(Dr Robert Watson, IPCC Chairman, 7 November 2001)

Predicted Impacts of Climate Change in Australia

Temperature: The CSIRO in 2001 predicted that by 2030 annual average temperatures will be between 0.4 and 2 degrees higher over most of Australia, with slightly less warming in some coastal areas and Tasmania, and the potential for greater warming in the north-west. By 2070 annual average temperatures are expected to increase by 1 to 6 degrees over most of Australia.

Rainfall: Changes in rainfall relative to 1990 tend towards decreases in the south-west of Australia and parts of the south-east and Queensland. Decreases are more pronounced in winter and spring. Where average rainfall increases there would be more extremely wet years, and where average rainfall decreases there would be more dry spells. Where there is an increase in rainfall there will be greater incidents of flooding.

Evaporation and moisture stress: Warmer conditions will lead to increased evaporation. When this is combined with the simulated changes in rainfall, there is a decrease in available moisture. This means greater moisture stress for Australia.

Tropical cyclones: Number and severity will increase.

Sea-level rise: Global sea-level rises associated with increased temperatures are 9-88 cm by 2100 or 0.8-8 cm per decade.

Global Impacts

Climate change will affect all systems within the planet. It will have adverse impacts on:

- agricultural productivity
- natural systems such as forests and woodlands
- wetlands
- alpine eco-systems
- coral reefs
- pests and weeds
- water resources
- urban and coastal communities and
- human health.

Understanding the Greenhouse Effect

Greenhouse effect: The Earth is naturally protected by radiation-absorbing gases, notably carbon dioxide and water vapour. These serve to retain some of the sun's warmth in what is commonly referred to as the **greenhouse effect**. This atmospheric principle is the same as that experienced in a green/hot house. In the early Earth, carbon dioxide accounted for over 70% of the atmosphere. The sun, however, was about a quarter less powerful: it was carbon dioxide and other **greenhouse gases** that kept the temperature warm enough for life. Over the aeons, the sun has grown hotter, but temperatures have remained comfortable because carbon dioxide concentrations have steadily declined. Since the Industrial Revolution there has been a human-induced increase in atmospheric carbon and other gases. This is the 'enhanced' greenhouse effect brought about by human activities such as the burning of fossil fuels and deforestation. (*The Gaia Atlas of Planet Management*)

Greenhouse gases are *molecules* in the Earth's *atmosphere* such as *carbon dioxide* (CO₂), *methane* (CH₄) and *CFCs* which warm the atmosphere because they absorb some of the *thermal radiation* emitted from the Earth's surface.

Greenhouse gas emissions are the release of *greenhouse gases* into the *atmosphere*, causing *global warming*.

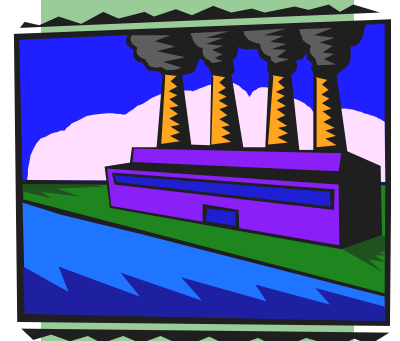
Fossil fuels are fuels such as coal, oil and gas made by decomposition of ancient animal and plant remains which give off *carbon dioxide* when burned.

Global emissions:

- 80% from fossil fuel burning – non-renewable sources of oil, coal and natural gas (as humans we contribute to this by, for example, our use of cars and electricity).
- 20% from tropical deforestation.
- While most emissions now come from developed countries of the North (the developed industrialised nations) which includes Australia, within a few decades over half the emissions will come from the developing world, notably China and India.

Figures as at 17 September 2001: Australian average greenhouse gas emissions are now 30% higher than those of the American average. The largest per capita emitters are: Australia (27.6 tonnes), Luxembourg (24.2), Canada (21.9) and the USA (21.1). The average for the European Union is 10.3 tonnes, a figure heavily influenced by its largest members, Germany (11.9), UK (11.4), France (8.2) and Italy (9.0).

Mass bleaching, leading to the death of corals, will become a more frequent event on Australian coral reefs in the coming decades.



The Earth's temperature is rising globally, and this increase in temperature is attributed to the increase in greenhouse gases produced largely through human activity.

Australia's greenhouse gas emissions have increased massively and are running 25 percent above a target set by the rest of the world.

*With climate change,
it's the poorest who
pay most, not the
polluters in the
industrialised
countries.*



*For more information
on climate change and
a sample lobbying
letter, see the
Eco-justice page on the
SAO website:
sao.clriq.org.au/eco.html*

*For more information
on the World Summit on
Sustainable
Development, check
the towards earth
summit 2002 website:
www.earthsummit2002.org/*

Climate Justice

Climate change and environmental justice advocates the adoption of a morally responsible policy that avoids disproportionate climate change impacts on vulnerable groups and opposes unfair, regressive climate policies, e.g. the peoples of some of the Pacific Islands are vulnerable to rising sea-levels and are likely to suffer a disproportionate effect of global warming.

Eco equity is the equal right to global common resources. The injustice of climate change centres on the fact that the world's poor – in both developed and developing countries – have neither contributed to the problem to a substantial degree nor benefited financially from the fossil fuel industry.

Further, natural disasters in 1998 created more refugees than wars or other armed conflicts. Declining soil fertility, drought, flooding and deforestation drove 25 million 'environmental refugees' from their land and into vulnerable squatter communities of crowded cities. Fleeing from weather-devastated homes, the group represented 58% of the total refugee population worldwide.

Ratifying the Kyoto Protocol

The Kyoto Protocol on Climate Change is an international framework to reduce greenhouse gas emissions in an attempt to mitigate the worst impacts of global climate change. In December 1997, representatives from 142 nations met in Kyoto, Japan, to negotiate and sign the United Nations Framework Convention on Climate Change (UNFCCC), now known as the Kyoto Protocol. The Kyoto Protocol and its continuing negotiations are far from perfect. However, as it is the only current international agreement to reduce greenhouse gas emissions, and has been ten years in the making, many believe getting the Protocol into action is a crucial step in combating global warming.

The Kyoto Protocol will only come into legal force when it is ratified by the governments of at least 55 countries responsible for 55% of 1990 CO₂ emissions. Therefore, to reach the required emission levels, the governments ratifying must include the countries that are responsible for the greatest emissions of CO₂ based on the levels of 1990. This group includes USA, Canada, Australia, Japan, European Union, New Zealand and Russia. As the USA has withdrawn from the process it is imperative that the other countries responsible for the greatest emissions ratify the Protocol before the 2002 World Summit on Sustainable Development (WSSD) to be held in Johannesburg in late August-early September.

It is imperative that the Australian Government meets its international obligations by ratifying the Kyoto Protocol before the WSSD. It will be important to lobby our elected representatives in the weeks leading up to this important international meeting.

World Summit on Sustainable Development – Johannesburg 26 August - 4 September 2002

The Kyoto Protocol will be a key agenda item at the Summit. It is hoped that most nations will have ratified the Protocol before the WSSD commences. Other agenda areas will address poverty, improving sanitation, preserving natural ecosystems, changing harmful patterns of consumption and focusing special attention on impoverished Africa. These issues are integral to sustainable development which aims to meet present needs while not compromising the ability of future generations to meet their needs.

Sources: *Global Warming: The Complete Briefing* (John Houghton)
Running from the Storm: The Development of Climate Change Policy in Australia (Clive Hamilton)
Climate Action Network Australia
CSIRO documentation
World Environment News
CST and the Environment Module – SAO (CLRIO)