Nine perspectives

limate change is not an easily understood, nor discrete, phenomenon. Have you thought about approaching climate change through a perspective other than a scientific one? Have you thought about how climate change affects much more than our natural world?

The Kyoto Protocol

JILLIAN BUTTON, MINTER ELLISON

The first commitment period for the Kyoto Protocol begins next year. So what? So developed countries which are subject to the binding provisions of the Protocol will be accountable for meeting greenhouse gas reduction targets, aggregating at 5 per cent below 1990 levels.

To meet their targets, governments and industry will trade in carbon credits. The world's carbon market, already estimated to be worth a staggering US\$30 billion, will continue to fluctuate and expand.

Regulated entities will also earn carbon credits by investing in clean energy projects in developing countries under the Protocol's Clean Development Mechanism (CDM). There will be massive investment in China. Perceived as high risk and high cost, African countries will probably miss out. Yes, it isn't perfect, but the Kyoto Protocol is definitely alive and kicking.

And the bottom line for a young Australian lawyer? A lot hinges on the next federal election. Opposition leader Kevin Rudd has promised to ratify the Protocol within his first month of office, meaning that Australia would gain the right to participate fully in the Protocol.

If the Coalition holds onto power, international carbon trading will still be on the cards. The most likely course under a Coalition government will be to establish a domestic carbon trading system and commence international trading by interfacing our system with other domestic or regional systems. The European Union (EU) is willing to consider trading credits with Australia, even if Australia does not ratify Kyoto.

A domestic system may be established by 2010, meaning that today's young lawyers may have the chance to be involved in international carbon transactions within five years, if not sooner.

The EPBC Act

JOSEPHINE PARKINSON, DLA PHILLIPS FOX

The Environment Protection and Biodiversity Conservation Act 1999 (Cth) (the Act) is Australia's principal environmental legislative initiative. The trigger for assessment under the Act is whether an action has, or is likely to have a significant impact on a protected matter.

Seven matters of national environmental significance have been identified that trigger the operation of the Act. They are:

world heritage properties;

- national heritage places;
- wetlands of international importance (Ramsar wetlands):
- · threatened species and ecological communities;
- · migratory species;
- · Commonwealth marine areas; and
- · nuclear actions (including uranium mining).

Notably, there is no provision for the direct assessment of carbon emissions or other impacts on climate change under the Act. The introduction of a climate change trigger into the Act has been the subject of discussion. In 2005, Shadow Minister for Infrastructure and Water Anthony Albanese introduced the Avoiding Dangerous Climate Change (Climate Change Trigger) Bill 2005 in an effort to expand the Act to include a climate change trigger for assessment. The Bill proposed the introduction of a new s25AA to provide a trigger based on emissions and a new threshold of establishing a "significant impact" on the environment. The Bill ultimately failed.

Creative argument has attempted to fill the legislative void and capture carbon emissions in assessments of environmental impacts under the Act. In the *Nathan Dam* case¹ the Federal Court ruled the Minister is required to consider direct and indirect impact of actions, including the downstream impact of a dam due to farmers using water from the dam.

Recent cases have attempted to extend this principle to the consideration of greenhouse gas emissions as an indirect impact. The *Isaac Plains Coal Project* (EPBC 2005/2070) and the *Sonoma Coal Project* (EPBC 2005/2080) involved open-cut coal mines with an expected production of 48 million tonnes of coal over the next 15 years. Both projects failed to attract the operation of the Act.

The Minister's decision that these two projects were not "controlled actions" was challenged by the Wildlife Preservation Society of Queensland in 2005.² The Federal Court agreed with the Minister's decision that any impact on global warming and climate change caused by these two projects was "speculative" and that the mines were "not likely" to have a significant impact on the environmental matters protected under the Act.

Sociology

SOPHIE BANKS, SLATER & GORDON

Sociologists address climate change in terms of how people are affected by the environment and how people's behaviour affects the environment. From a sociological perspective, the issue of climate change poses some important questions. For example, one of the main questions currently is, if climate change is a global problem requiring a global response, what implications does this have for developing countries?

Indeed, it is often the poorest in global society who are put at greatest risk when it comes to environmental



disasters. The 2004 Boxing Day Asian tsumani is a recent example of this. Most agree that the onus is on developed countries to provide economic support. It is also inevitable that developed countries will increasingly be called on to open their borders to the displaced; but what impact will this have on the construct of the "family" and "nationality"? Arguably, it is impossible to contemplate a global response to climate change without first engaging in the sociological debate.

Religion

ADAM BUSHBY, NICHOLLS LEGAL

At first glance, one wonders if there is any connection between combating climate change and the teachings of the Catholic Church. However, in his recent New Year's Day message, Pope Benedict XVI offered a compelling theological argument for addressing climate change and its adverse environmental impact. Notwithstanding one's religious convictions (if any), one must concede that "Papa Ratzi" presents a beautifully simple and profound argument.

In painfully simple terms, the deductive argument unfurls a little like this. God created human beings and in doing so gifted life. However, that gift was not, strictly speaking, ex gratia. The recipients of that gift (that's us) are required, in turn, to contribute to the prosperity of the world. In other words, creation necessarily encompasses both a "gift" and a "task".

One aspect of this task is for human beings to recognise both a practical and spiritual relationship between a "human" ecology and the ecology of nature. Because contempt for the environment will ultimately harm human coexistence, a more balanced human ecology must be sought in order ameliorate the adverse impact of climate change. Given that the prosperity of humanity is hopelessly decentred, a more balanced human ecology requires a more just "social" ecology, culminating in a "multifaceted ecology of peace". Phew!

Economics

AFROOZ KAVIANI-JOHNSON, CLAYTON UTZ

The Stern Review, an independent review for the British government led by Sir Nick Stern, Head of the Government Economic Service and former World Bank Chief Economist, posited a simple economic argument: the benefits of strong, early action on climate change far outweigh the costs of inaction. Early action now is estimated to cost a mere 1 per cent of global GDP by 2050. "Business as usual" could cost up to 20 per cent.

The Stern Review is the first major contribution by an economist to the debate on climate change. It is not without its critics. But the translation of climate change into costs and market failures has caught the attention of the UK government. The language of economics may be what is required to cause a shift in political direction.

Among other things, the Stern Review observes that effective action requires a global policy response, guided by a common international understanding of the long-term goals for climate policy and strong frameworks for cooperation. While the UN Framework Convention on Climate Change and the Kyoto Protocol provide a basis for international cooperation, more ambitious action is now required. Key elements of future international frameworks should include emissions trading schemes, technology cooperation and action to reduce deforestation.

Nuclear power

ZOE WATSON, MONASH UNIVERSITY

Is nuclear power the solution to the energy problems associated with climate change? As Australia's drought could indicate, our planet's climate seems to be heating up and changing more quickly than previously thought.

Nuclear power creates energy using heat produced by an atomic reaction. This energy produces little or no greenhouse gases. Therefore, nuclear power potentially reduces global warming, due to the direct correlation between greenhouse gases and global warming. In Sweden, where nuclear power has been used for more than 20 years, waste is stored underwater in an underground rock cavern.

Prime Minister John Howard's nuclear panel, led by Ziggy Switkowski, recently concluded that nuclear energy is viable in Australia with the right regulations. It is predicted that Australia can meet one-third of its electricity generating needs by 2050 if it builds 25 nuclear reactors.

The power generator's research finds that technologies such as solar and wind power are not thought to play a major role in energy supply until the second half of the century. John Howard stated the report proves that nuclear power is "clean and green" and it is increasingly economic.

However, several state governments have said they would not permit nuclear reactors within their borders. Currently, all aspects of nuclear power are governed by state legislation. However, there is discussion that nuclear power may become a constitutional issue with federal legislation then being created.

Nuclear power would play a vital role in reducing greenhouse gas emissions, expected to reduce total emissions by 8 to 18 per cent by 2050. Nuclear waste is already being produced in hospitals, by CT scans and MRIs, and is stored in bunkers. The main concern regarding the implementation of nuclear power is the safe removal of the waste generated. There are a number of important calculations in relation to waste disposal and decommissioning, making the entire risk a lot more expensive than people may believe.

Environmental refugees

NATASHA BARNES, NORTON WHITE

The overwhelming consensus, both of the existence and impact of global warming, does not, at this stage, extend to the recognition of environmental refugees, at either the international or national levels.³ This largely comes down to semantics, and the fact that the *UN Convention and Protocol Relating to the Status of Refugees* Article 1 definition of "refugee" does not incorporate any understanding of an "environmental refugee".

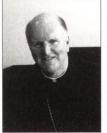
Notwithstanding, a 2005 report hypothesised that by the close of the decade, global warming will have created approximately 50 million environmental refugees.⁴ According to the Red Cross, more people are displaced by environmental factors than war.

Looking forward to 2050, we can expect 200 million environmental refugees due to rising sea levels alone. In the context of Australia's neighbouring regions, those most at risk are obviously low-lying islands such as Kiribati, the Marshall Islands and the Federated States of Micronesia.⁵ In October 2006, Environment Minister Ian Campbell acknowledged that, although Australia may have a responsibility to mitigate the effects of global warming on poorer neighbouring countries, this did not equate to accepting environmental refugees.⁶

The Butterfly Effect

JUDD YOUNG, WHITE CLELAND

The Butterfly Effect is a modern science analogy which suggests that every single event is interconnected, to the extent that a butterfly flapping its wings on one side of



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the planet could by extrapolation cause an earthquake in another part of the world. While this proposition is almost impossible to comprehend, its relevance to climate change is becoming increasingly apparent.

A blatant example is that of the spruce bark beetle in Alaska. A series of warmer than average winters have allowed the beetle population to proliferate. The unfortunate ramification of this population explosion has been the annihilation of in excess of 15 million trees.⁷

A less obvious, but equally important example is that of dwindling krill numbers in Antarctica. These simple, openocean crustaceans form the basis of the diet for penguins, seals and the great whales. Krill, in turn, feed on plankton, which thrives in the presence of sea ice. As oceans warm and the ice melts, the food chain feels the pinch from the bottom up. According to Dr Angus Atkinson, krill numbers in Antarctica have declined by 40 per cent per decade since 1976. Such trends spell disaster for species that have existed in relative harmony for hundreds of millions of years.

Planning law

MATTHEW BRIDGES, HALL AND WILCOX

The Planning and Environment Act 1987 (Vic) (the Act) is one of the pieces of legislation that regulates the use and development of land in Victoria (see also the Environmental Effects Act 1978 (Vic) and the Environment Protection Act 1970 (Vic), as well as the Environment Protection and Biodiversity Conservation Act 1999 (Cth)).

The Act's purpose is to provide a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians. Its objectives include enabling land use and development planning and policy to be easily integrated

with environmental (and other) management policies at state, regional and municipal levels.

As part of the state government's "Sustainable Neighbourhoods" policy, Victoria's planning schemes were amended in October 2006 by the introduction of new requirements to be met by people wishing to subdivide residential land. Notable changes include:

- integrating access and mobility requirements, with the aim of seeking to reduce car dependence, improving energy efficiency, reducing greenhouse gas emissions and reducing air pollution; and
- sustainable water management requirements, designed to reduce the use of drinking water.

These changes are a good example of how planning law is endeavouring to address, in a practical way, some of the causes, and dealing with some of the consequences, of climate change as urban populations grow.

Endnotes

- Minister for Environment and Heritage v Queensland Conservation Council [2004] 139 FCR 24.
- Wildlife Preservation Society of Queensland Proserpinel Whitsunday Branch Inc v Minister for Environment and Heritage [2006] FCA 736
- See Commonwealth, Senate Estimates Hearing, Senate, 30 October 2006, 14-16, Senator Vanstone.
- Institute for Environment and Human Security at the United Nations University. See also David Adam, "50m environmental refugees by end of decade, UN warns", The Guardian (London), 12 October 2005, 15.
- N Myers, "Environmentally-induced displacements: the state of the art", in IOM/UNHCR Environmentally-Induced Population Displacements and Environmental Impacts Resulting from Mass Migration (1996), 45, 48.
- AAP, "Australia 'unlikely' to take environmental refugees", The Australian (Sydney), 9 October 2006, 8.
- Tim Flannery, The Weather Makers, Text Publishing Australia, 2005
- 8. Flannery, note 7 above.

