

Australia on Top

By Tony Owen*

Australia is the industrialised world's largest per capita emitter of greenhouse gases, with emissions amounting to 27.9 tonnes of CO₂-e (carbon dioxide equivalent) in 1999 (the latest year for which comprehensive Annex B country data are available). This dubious distinction, combined with a refusal to ratify the Kyoto Protocol, has given Australia pariah status in the international environmental debate. Although outcast amongst most Annex B countries, it has, however, got one powerful ally (the USA) in its trenchant stance. And it can always rejoice in the fact that at least it signed the Protocol in 1997, which is more than all but one of the OPEC states could manage!

Put simply, the Australian government's logic for refusing to ratify the Protocol is based upon a government perception that it would place upon domestic industry a cost burden that would not be borne by its traditional competitors in Asia who, at least during the first commitment period, will be exempt from any requirement to reduce their own Greenhouse Gas (GHG) emissions. At first sight this argument is very appealing (i.e., there are lots of votes in it). However, it is predicated on a defensive fortress mentality, and fails to appreciate opportunities for cutting edge environmentally-sensitive technologies in those same Asian countries, where current environmental standards are pitifully low.

Australia is, in many respects, unique among developed countries. It has a wide range of climatic zones (not everywhere gets continuous sunshine!), relatively high population growth, a highly urbanised population but with long distances separating urban centres, and land use patterns that are still undergoing significant change. It also has one of the highest GDP growth rates of any OECD country.

A major factor contributing to Australia's emissions of GHG is the domination of energy generation by low-cost fossil fuels, and particularly coal. There is no nuclear power industry, and hydro-power makes only a very small contribution to total electricity generation. Further, energy exports play a major role in the economy, either in the form of exports of primary energy (i.e., coal, oil¹ and liquefied natural gas) or energy-intensive (i.e., steel and aluminium) products. It is the threat (real or imaginary) posed to these and allied industries that has persuaded the Australian government that ratification would impose an unacceptable competitive imposte on export-orientated domestic industry. For example, a recent LNG supply contract with China will entail extra domestic Australia

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¹ Australia is, however, a net importer of oil and oil products.

lian emissions of 1.5 million tonnes (Mt) CO₂-e a year to produce the LNG. If other potential LNG suppliers did not have a Kyoto-based obligation in terms of restricting domestic GHG emissions, then clearly Australia would be placed at a competitive disadvantage as an LNG supplier.

Australia's total net greenhouse gas emissions over the first compliance period (2008-2012) are projected (Table 1) to average 581 Mt CO₂-e per year, representing an 11% increase on its 1990 Kyoto baseline of 525 Mt CO₂-e. At present, therefore, Australia appears to be well on-track for meeting its Kyoto target of 108%. Indeed, there may even be the opportunity to come in well under the target and sell emission permits to those countries that fail to meet their own target. So why is the government so insistent that it will not ratify the Protocol?

The devil, as always, lies in the detail (in Table 1). Approximately 70% of Australia's total emissions in 2000 were from the energy sector and, in turn, two-thirds of these arose from electricity generation. By the first compliance period, emissions from the energy sector are projected to have risen by almost 40% over their Kyoto baseline level, even with current greenhouse abatement measures in place. Such measures include Generator Efficiency standards, Mandatory Renewable Energy Targets, Minimum Energy Performance Standards, and voluntary "good citizen" programs for industry. In the absence of such measures, it has

Table 1
Australian Greenhouse Emissions
1990, 2000 and 2008-2012 (Kyoto accounting).

Sector	1990 Mt CO ₂ -e	2000		2008-12 (average)	
		Mt CO ₂ -e	% of 1990	Mt CO ₂ -e	% of 1990
Energy	299	372	124%	418	139%
Stationary	209	264	127%	284	136%
Transport	61	76	124%	91	148%
Fugitive	30	32	107%	43	144%
Agriculture	91	98	108%	95	104%
Waste	15	17	112%	15	100%
Industrial Processes	12	15	127%	24	201%
Impact of GGAP^a				-11	
Land use change & forestry					
Forestry sinks ^b	0	-10	-	-21	
Land use change ^c	107	61	57%	61	57%
TOTAL EMISSIONS	525	553	105%	581	111%

Source: Australian Greenhouse Office

- Total estimated abatement across all sectors from Australia's Greenhouse Gas Abatement Program (GGAP).
- Estimate of net forestry sequestration from Kyoto-compliant plantations that exist in 2000.
- Preliminary projections of land use change (CO₂ only).

been estimated that this latter figure would be about 50%.

Transport (and particularly road transport) is also a large contributor to energy sector emissions. These are projected to rise by 48%, largely driven by increases in freight and passenger car emissions. In turn, they themselves are driven by ongoing growth in GDP and population growth. The impact of emission reduction measures is projected to be much lower than for electricity generation, amounting to an estimated average reduction of just 0.7% of 1990 levels by 2008-2012.

Fugitive emissions cover methane, carbon dioxide and nitrous oxide emissions from the production, processing, transport, storage, transmissions and distribution of raw

fossil fuels. Methane leakage from coal mining, and fugitive methane and carbon dioxide emissions from oil and gas production and transmission, account for most fugitive emissions. Projected rapid growth in fugitive emissions through to the first commitment period results mainly from projected increases in the production of natural gas. Here, again, emission reduction measures are estimated to have a relatively minor impact, reducing emissions by just 0.5% of their 1990 level by 2008-2012.

So where are the “savings” coming from that justify a projected 11% increase?

In terms of the Kyoto Protocol reference date (1990), Australia was indeed “fortunate” to have *Land Use Change* generating about one quarter of its total emissions. Emissions from this source are the result of the burning of removed vegetation, the decay of unburnt vegetation, and emissions from soil disturbed in the process of clearing. These actions can be offset by carbon sequestration due to re-growth of vegetation on previously cleared land. A decline of 46 Mt CO₂-e (or 57%) from this source by 2000 reflects lower levels of land clearing and this saving, together with Kyoto-permissible reforestation, is the main factor behind Australia’s seeming ability to meet its target. However, the news gets better. The average 2008-2012 projection for *Land Use Change* is a business-as-usual (i.e., “without measures”) projection, and consequently further efforts to reduce land clearing will simply augment this ability.

The bad news, of course, is that savings arising from *Land Use Change* will make a significantly lower contribution in any future commitment period, and thus substantial emission reductions in other sectors of the Australian economy, and particularly electricity generation, are likely to be required. For an economy so heavily reliant on energy exports this could be difficult without recourse to Kyoto’s flexibility mechanisms.

Over recent months there has been growing media criticism of the Australian government’s reluctance to ratify the Kyoto Protocol. Last August, 254 economists (including the author of this piece) were signatories to a statement calling on the Prime Minister to ratify the Protocol in Australia’s economic and environmental interests. In essence, the statement was that “As economists, we believe that global climate change carries with it serious environmental, economic and social risks and that preventive steps are justified. Policy options are available that would slow climate change without harming employment or living standards in Australia, and these may in fact improve productivity in the long term.” Whilst Australia’s politicians have rarely been concerned with the views of economists, they were far more sensitive to the widespread condemnation of Australia’s Kyoto stance at the recent Earth Summit in Johannesburg (like economists, even politicians like to have some friends!).

Now that the pre-conditions for ratification of the Protocol have been met (assuming there is no change of intent by Russia), then it is probably safe to assume that Australia will also eventually ratify (as soon as the Prime Minister’s turnaround can be accomplished without too much embarrassment). Without being part of the process, it would be very difficult for Australia to influence procedures and protocols for forthcoming commitment periods and, in particular, the terms under which its major Asian trading competitors and their future GHG reduction obligations are incorporated in to

any future global agreements.

I’ll end with a constructive(?) suggestion. For the second commitment period (if there is to be one), perhaps GHG emission targets should be based upon national emission levels arising from “consumption” of GHG rather than production. This approach has three advantages for Australia:

1. Theoretically (economics, of course), it’s the only sound option;
2. Primary commodity exporters are not penalised in favour of importers (EU please note!); and
3. The complexity of the process would ensure that it could never be implemented (a technique familiar to most politicians!).

We live in interesting times!

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This article has relied upon publicly available data published by the Australian Greenhouse Office. The views expressed, however, are solely attributable to the author.

Energy Privatisation in the United Kingdom *(continued from page 7)*

selves.

So, has this process led to the exploitation of the consumer, as the opponents of public utility privatisation confidently predicted?

Far from it.

Since privatisation in 1990, UK gas and electricity prices have fallen, in real terms, by an average of 30 per cent for all users, industrial and domestic alike.

And in the considered view of the present regulator, the major reason for these dramatic price reductions has been the introduction of competition and deregulation, rather than price regulation.

Nor have lower prices been at the expense of reduced investment in these industries. Over the past five years, for example, investment in electricity distribution in the UK was almost 30 per cent higher in real terms than in the 5 years prior to privatisation.

Nor has security of supply been threatened in any way. Indeed, electricity generating capacity in Britain is currently some 30 per cent higher than average demand – an even bigger margin than at the time of privatisation.

All in all, it is difficult to escape the conclusion that those in Europe who persist in rejecting full-blooded privatisation and deregulation of their energy utilities are motivated not by their desire to safeguard their consumers or indeed, to enhance their nation’s economic well-being, but rather to protect these industries and persist with hidden subsidies at a time when international treaty obligations make other forms of protection increasingly hard to sustain.

In conclusion, the moral seems to be this: News is when things go wrong.

As I have indicated, the privatisation of the UK’s gas and electricity industries is something that has gone supremely right.

As a result, the story is seldom told.

That is why I thought it worth telling today.