



Peak oil may have a greater impact than climate change in the short-term.

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## Prompt action required on sustainability and global inequity

Sustainability is finally starting to be taken seriously in the corridors of power. For the immediate future, the touchstones of our preparedness to raise our sights above narrow personal and national self-interest and to focus on the ability of humanity at large to survive and prosper will be climate change and the peaking of global oil supply.

The need to address human-induced climate change has finally reached the top of the political agenda, driven primarily by scientific and community concern rather than by proactive political leadership.

Even now, it is far from clear that Australia's political leaders – on both sides of parliament – understand and accept the seriousness of our position, and the limited

time available to take action in reducing carbon emissions before we enter the arena of dangerous climate change.

Recent science suggests that the danger level for atmospheric carbon concentrations is 450 parts per million carbon dioxide equivalent (ppm CO<sub>2</sub>e)<sup>1</sup>, possibly lower<sup>2,3</sup>. Current atmospheric carbon concentrations are 430 ppm CO<sub>2</sub>e, increasing at 3 ppm per annum and accelerating fast, both here and overseas.<sup>4</sup>

In theory that leaves seven years before we reach the danger point of 450 ppm. In reality, given accelerating emissions and the non-linear climatic response – which has become increasingly evident – we probably have no more than 4–5 years to turn down emissions growth.

As there is considerable lag before any reduction in emissions has an impact, action is required now. We cannot wait until 2011 as the government proposes to do with its emissions trading scheme; by that time we may well be in the danger zone before substantive action even begins.

The major parties now profess to support the introduction of emissions trading, and debate is focused on the targets to be set for Australian carbon emission reductions – 60 per cent by 2050 proposed by the ALP, with the government refusing to disclose its hand pending further analysis.

However, in the furore over Australian targets, a vital element is missing. The Prime Minister rightly emphasises that any realistic climate change solution must involve the developing world, and he is critical of the Kyoto Protocol for not so doing; but this is being economical with the truth.

<sup>1</sup> Carbon dioxide equivalent: a unit of measurement to indicate a gas's global warming potential relative to CO<sub>2</sub>.

<sup>2</sup> Hansen J, et al. (2007). Dangerous human-made interference with climate: a GISS modelE study. *Atmospheric Chemistry and Physics* 7, 2287–2312.

<sup>3</sup> Hansen J, et al. (2007). Climate change and trace gases. *Philosophical Transactions of The Royal Society A* 365, 1925–1954.

<sup>4</sup> Raupach M, et al. (2007). Global and regional drivers of accelerating CO<sub>2</sub> emissions. *Proceedings of the National Academy of Sciences of the USA* 104(24), 10288–10293. Published online May 22.

## Opinion

The whole point of Kyoto was that the developed world – having been responsible for some 80 per cent of emissions since the Industrial Revolution – should show leadership during the first Kyoto commitment period, from 2008–12, in taking the first step toward a solution. The intent has always been that the developing countries must come on board at the earliest opportunity, given their importance as contributors to future emissions.

The average American and Australian generates around seven times more carbon emissions per annum than the average Chinese, four times more than the global average. The figures for the average European are 3 and 1.7 times, respectively. It is morally indefensible and unrealistic to expect that the developed world can continue to emit at these levels, with the developing world absorbing the bulk of the climatic impact and being asked to constrain its own growth.

The simplest, most equitable and practical solution to resolve this conundrum is for each nation to agree to converge from today's unequal per capita carbon emissions, to equal per capita emissions globally by a date to be agreed, say 2040. To stay below the dangerous threshold of 450 ppm CO<sub>2</sub>e atmospheric carbon concentration will require the following changes relative to today's total emission levels:<sup>5</sup>

Year	2025	2050
Global	–15%	–55%
Australia & USA	–52%	–90%
Europe	–44%	–82%
China	+4%	–38%
India	+74%	+28%

If set up in the context of a global emissions trading system, this mechanism would have the potential to allow an orderly transfer of wealth from the developed to the developing world, which would be an equitable outcome of our current profligate use of the global environment.

Per capita carbon allocation is not a new idea, having been raised by the developing countries in initial climate change negotiations in the early 1990s, but dismissed at that time by the developed world.

### Putting peak oil on the agenda

In contrast to climate change, the peaking of global oil supply is barely on the agenda in this country, despite the good work carried out by the recent Senate Committee.<sup>6</sup>

Current reports from the IEA<sup>7</sup> and the US National Petroleum Council<sup>8</sup> are the first, grudging, official admissions that peak oil may soon become a reality. Indeed,

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If oil does move into short supply, who gets the oil that is available? Solutions range from:

- Letting the market take its course: the economists argue that supply will always balance demand at some price, but conveniently skirt around the traumatic societal impact of recession or depression arising from the implied higher energy prices.
- The 'Washington Consensus' of sending in the marines to secure supply. Recent experience suggests this is hardly a sustainable alternative.
- A global oil depletion protocol to provide for equitable sharing of available oil. Again, this may well require convergence toward equal per capita oil allocations by an agreed date if global conflict is to be avoided.

These challenges are daunting, but sensible analysis demonstrates that the required changes can be made at an acceptable cost, whilst maintaining our prosperity. The cost of not taking action, and reactively attempting to prop up business-as-usual, will be far greater.

However, successful solutions require, first, that we accept we have a problem, namely that human activity is pushing way beyond the ability of the global environ-

ment to absorb its impact, thereby threatening the survival of society as we know it; and that it is not going to be resolved by conventional market economics, or technology, in isolation.

Politically, we have not yet crossed that threshold and, regrettably, it may take some further crises to force the issue. Only the Greens have shown any real recognition of the problem.<sup>9</sup>

Second, climate change and peak oil are only forerunners of a range of issues stemming from the pressure of human activity.

If a global 'Tragedy of the Commons'<sup>10</sup> is to be avoided in the 21st century, we have to be prepared to cede sovereignty from narrow national self-interest, to supporting equitable global solutions to these issues – the Kyoto Protocol being the starting point.

Per capita allocation mechanisms – while not on the current political agenda and anathema to many conventional market economists – will probably become commonplace as global population grows from 6.5 to 9 billion over the next 40 years. In the process, per capita mechanisms can address many of the intractable problems that arise from global inequity, such as failed states, poverty and terrorism.

The transition to a low-carbon economy, stabilised atmospheric carbon concentrations and intelligent management of declining oil availability will fundamentally alter the lifestyle of the entire community for the better.

But it will only be achieved with mature leadership and a whole-hearted commitment to achieving these objectives. Rather than a problem, it is a unique opportunity to set humanity on a new course, built on sustainable principles.

Sustainability in the broadest sense, including the need to address global inequity, is no longer in the 'warm, fuzzy, nice to have' category, but a hard-nosed political and business requirement for our survival and prosperity.

● Ian Dunlop

<sup>5</sup> Indicative figures based on modelling by the Global Commons Institute, 'Contraction & Convergence', www.gci.org.uk.

<sup>6</sup> Senate Committee on Rural and Regional Affairs and Transport (2007). Australia's future oil supply and alternative transport fuels. 7 February.

<sup>7</sup> International Energy Agency (2007). *Medium Term Market Report*, International Energy Agency, Paris.

<sup>8</sup> National Petroleum Council (US) (2007). Facing the hard truths about energy: A comprehensive view to 2030 of global oil and natural gas. 18 July.

<sup>9</sup> Milne C (2007). *Re-Energising Australia*, Senator Christine Milne, Hobart.

<sup>10</sup> Hardin G (1968). The Tragedy of the Commons. *Science* 162, 1243–1248.