THE 80% SOLUTION.

My recent articles defending the wind farms have provoked a spate of replies. Today I am going to concentrate on a couple of criticisms which, to my mind, advance the debate.

My argument rests on the assumption that Global Warming constitutes a terrible threat not only to the environment (up to 40% of species going extinct with a 2° rise in the average temperature) but to human civilization itself. According to the Stern Review, unless we take drastic action NOW we face a HUMAN disaster 'comparable to the great wars and the economic depression of the first half of the 20th century'. But Sir Nicholas Stern hints at even more catastrophic outcomes: 'Given business-as-usual, the stock of greenhouse gases could more than treble by the end of the century, giving at least a 50% risk of exceeding 5°C global average temperature change. This would take humans into unknown territory.' Well, the territory may be unknown, but as other writers make plain, we can make an educated guess about what it would be like. Apart from even more mass extinctions, the risk is that the vast majority of the earth's surface will be transformed into desert and scrub rendering sustained agriculture impossible. And as the oceans warm up whilst simultaneously becoming more acidic, sea-life will retreat towards poles, transforming the seas into aquatic deserts. Mass starvation and the end of our global civilization are the likely results.

These are the risks we face: something as bad as a world war or something a great deal worse. Averting this threat is a matter of the utmost urgency.

What do we have to do? Well, according to the Sir Nicholas Stern by 2050, we - and by 'we' he means the world at large - should cut our greenhouse gas emissions by something in the region of 80%.

Let me stress that it is humankind in general that has to make the cuts. Thus for us in New Zealand, fending off the threat of global catastrophe is primarily a FOREIGN policy objective. It's what we can persuade other countries to do that really counts, not what we do ourselves. If the rest of the

world made the necessary cuts we could pump out CO2 to our heart's content and everything would be hunky-dory. Conversely, if we made the necessary cuts but nobody else did, our ecological purity would not save us from the coming catastrophe.

Does this mean that we can just sit back and rely on other countries to save the planet? Does it mean that we can leave the uplands alone secure in the knowledge that it will make hardly any difference to the fate of the earth whether we burn coal for power or not? This is the view of L.R.W Brown (ODT, 18/9/06.): 'If New Zealand could cease greenhouse gas emissions right now, the effect on global warming would be infinitesimal. Therefore, what we are really looking at is global warming with a despoiled landscape or without one; the choice is ours.'

Though the choice is indeed ours, I think that Brown is wrong, for two related reasons. The first is moral. During WWII millions of soldiers fought for the Allied cause. What any one soldier did made hardly any difference to the war effort - certainly not enough to make the difference between victory and defeat. But what would we have thought of a soldier who used this as an excuse to slack off and let other people carry the can? But if it was wrong then for a soldier to let other people carry the burden of fighting fascism, surely it would be wrong now for New Zealand to let other countries carry the costs of averting the global catastrophe whilst enjoying the benefits of a carbon-based economy (such as unsullied uplands).

The second reason is political. Although our policies with respect to greenhouse gases won't make much PHYSICAL difference to the fate of the earth, they might make a POLTICAL difference. They might make a difference when we try to persuade other countries to go easy on the greenhouse gases.

My favorite opera contains three lines which always make me think of New Zealand: 'This country is so beautiful/ One fine day you may see it/All.' But in fact the lyric (from John Adams' *Nixon in China*) is not about New Zealand at all, but China. Now, if the mass of the Chinese people are to live

even an approximation to the good life that we, in New Zealand, take for granted, and if they are NOT to poison the planet with greenhouse gases, then that beautiful country will have to be liberally sprinkled with wind farms, hydro-dams and maybe nuclear power plants. We are going to have a hard job persuading them to do this if we treat our own beautiful country as sacrosanct. The Chinese will have to forgo the devil's bargain from which we have been benefiting from for so long. They will have to give up the easy path to prosperity powered by fossil fuels and fight their way to the good life using new carbon-neutral technologies. The same goes for the rest of the developing world, particularly that other emerging giant, India.

Thus it should be one of the prime objectives of our foreign policy to persuade countries just struggling out of abject poverty not to do as we have done. Luckily economic growth does not entail greenhouse gas emissions so long as you use the right technology. (For example, if you have a smaller car fleet, if those cars are powered by fuel cells, and if the hydrogen for the fuel cells is produced by electrolysis with the aid of electricity harvested from he wind, you don't get much CO2.) Thus it is possible, though difficult, to escape from poverty without burning fossil fuels. (Or perhaps by burning the fossil fuels but 'capturing' the carbon.) Nevertheless, it is a big ask. And if we are to have any credibility when we make that big ask, if we are to persuade developing countries to choose a different and difficult path to prosperity, we must show that we too are prepared to make sacrifices. Which means that we have got to make a serious start on those 80% cuts.

On a worldwide basis about 24% of greenhouse gas emissions are due to power generation. The figure is much less for New Zealand where a lot of our power comes from the hydro-dams. This means that without too much trouble we can move to a situation in which NONE of our electricity is produced by burning fossil fuels. The aim should be to shut down the coal-fired power station at Huntley and the gas-powered plants at Huntley, Auckland and Taranaki. Given current technology, this can't be done without wind power if we assume constant or increasing demand. For about 30% of our electricity is generated by coal or gas. But why, say my critics, should we assume constant or increasing demand? Shouldn't we be cutting demand

rather than increasing or maintaining supply? The aim should be an energy-efficient society with much of our electricity coming from micro-power (the wind-turbine on the roof, the solar panels in the ceiling.).

Now I'm all in favor of micro-power and the energy efficient society. But creating the necessary institutions and incentives, and converting our homes is going to be a time-consuming business. My guess is that it will take us at least ten years to make 30% cuts. In the meantime we will be burning coal - or gas - for power. And even if we manage to make the necessary savings that does not mean that we will need less electricity. For if we are to make those 80% cuts we are going to have to tackle transport, industry and buildings which make up 14%, 8% and 14% respectively of global greenhouse gas emissions. We can make some savings in transport by (e.g.) walking or cycling to work. But even if we make those savings we will still have to transport people and goods from A to B even though, in the long term we will have to kiss goodbye to the internal combustion engine. We will still have to cook. We will still have heat out homes and buildings no matter how well insulated they may be. And we will still have to power a wide range of industrial processes. If we are to do all this without emitting greenhouse gases we are going to have to do it with electricity. Thus if we are going to cut greenhouse gases by 80% without reverting to a pre-industrial society we are going to need MORE electricity, not less.

Thus, absent strong reasons to the contrary, there is a good case for the wind farms. And as I have argued in previous articles, strong reasons to the contrary are absent.