

## LORD LAWSON: "DEEP THOUGHT: CLIMATE OF SUPERSTITION"

The Spectator, 11 March 2006

By Nigel Lawson

There is no opinion, however absurd, which men will not readily embrace as soon as they can be brought to the conviction that it is generally adopted.

--Schopenhauer

Next week marks the deadline that has been set for reactions to the less than satisfactory discussion paper that has emerged from the government's belated review of the important issue of the economics of climate change.

It is important for David Cameron, too. For, while rightly giving the environment a high priority, he is in danger, over this issue, of making commitments which, in government, he would find it extremely damaging to honour.

Crucial though the economics of climate change is, the starting point clearly has to be the science. I readily admit that I am not a scientist myself; but then the vast majority of those who pronounce with far greater certainty than I shall on this aspect of the issue are not scientists either; and the vast majority of those scientists who speak with great certainty and apparent authority about climate change are not in fact climate scientists at all.

We know for certain only two things. The first is a matter of history rather more than science: namely, that since about 1860, when accurate temperature records were first collected on a comprehensive basis, northern hemisphere temperatures have risen by about 0.6 deg C; and that this coincides with a steady growth in the amount of carbon dioxide in the atmosphere, a significant part of which is a consequence of industrial and other man-made emissions.

The second is that our planet is kept from being too cold for life as we know it to survive by the so-called greenhouse effect, which traps some of the heat from the sun's rays. This is overwhelmingly - somewhere between 75 and 95 per cent - caused by clouds and other forms of water vapour; and the carbon dioxide in the atmosphere accounts for most of the remainder. But so great is the uncertainty of climate science that it is impossible to say - and it is hotly disputed - how much of the modest warming that has been experienced since 1860 is due to the man-made increase in carbon dioxide.

The United Nations intergovernmental panel on climate change (usually known as the IPCC) has produced immensely complex computerised models which generate a specific temperature rise for any projected increase in carbon dioxide emissions; but of course the outcomes simply reflect the assumptions implicit in the models, and it is these assumptions that are inevitably highly speculative. The IPCC models assume that the recorded warming during the 20th century was entirely caused by man-made emissions of greenhouse gases, of which carbon dioxide is clearly the most important.

This may be true; but equally it may not be. There are, for example, climate scientists who believe that the principal cause has been land-use changes, in particular urbanisation (the so-called urban heat island effect) and to some extent forest clearance for farming. But much

more important is the fact that the Earth's climate has always been subject to natural variation, nothing to do with man's activities. Again, climate scientists differ about the causes of this, although most agree that variations in solar radiation play a key part. It is well established, for example, that a thousand years ago, well before industrialisation, there was what has become known as the mediaeval warm period, when temperatures were probably almost as high as, if not higher than, they are today. Going back even further, during the Roman empire, it was even warmer - so much so that the Romans were able to produce drinkable wine in the north of England. More recently, during the 17th and early 18th centuries, there was what has become known as the little ice age, when the Thames was regularly frozen over in winter, and substantial ice fairs held on the frozen river became a popular attraction.

Even during the period since 1860, for which we have accurate temperature records, the picture is complicated. While the amount of man-made carbon dioxide in the atmosphere has, since the industrial revolution, steadily increased, the corresponding temperature record is more cyclical, displaying four distinct phases.

Between 1860 and 1915 there was virtually no change in northern hemisphere temperatures. Between 1915 and 1945 there was a rise of about 0.4 deg C. Between 1945 and 1965 the temperature fell by about 0.2 deg C - and alarmist articles by Professor James Lovelock and others began to appear, warning about the prospect of a new ice age. Finally, between 1965 and 2000 there was a further increase of about 0.4 deg C, thus arriving at the overall increase of 0.6oC over the 20th century as a whole. Although, so far this century, there has been nothing to match the high temperature recorded in 1998, it would be rash to assume that this latest upward phase has ended.

At first sight, this might suggest a considerable natural variability, and thus inherent unpredictability. The official IPCC story, however, which is incorporated into its model, is that, before 1965, power stations (largely coal-fired) emitted large amounts of sulphur, producing sulphur dioxide in the atmosphere, which had a cooling effect - by dimming the sun's rays - that more than offset the warming effect of the carbon dioxide. Since 1965, it is claimed, when the industrialised West took steps to prevent this pollution, the carbon dioxide effect has reigned supreme.

Again, this may be so - or it may not be. Certainly, it makes it even harder to explain as man-made the 0.4 deg C increase in temperature between 1915 and 1945, when power station emissions were as dirty as they have ever been. So much for the science.

But the IPCC's scenarios - which incidentally it insists are not forecasts, although it must be well aware that that is how they were bound to be interpreted - showing a rise in global temperatures of between 1oC and 6oC by the end of this century, derive not only from the speculative assumption that the increase which has already occurred is entirely due to the rise in man-made carbon dioxide emissions. They also depend crucially on the IPCC's assumptions about how much these emissions will, on a business-as-usual basis, rise further between now and the end of this century. And this is a matter of economics rather than science.

Two economic assumptions are of particular importance. These are, first, the rate of world economic growth between now and the end of this century; and, second, the energy intensity of that growth.

The IPCC's various scenarios assume a rate of world economic growth over the whole of this century of between 2.2 per cent and 3 per cent a year. History would suggest that, while perfectly possible, this is somewhat on the optimistic side. Even more optimistic is the way in which these overall world growth rates are assumed to be composed. Essentially, they are derived from assuming a very high rate of growth in the developing world as a whole over the next 100 years, with the result that living standards in terms of GDP per head steadily converge with those of the developed world by the year 2100.

In other words, living standards throughout the developing world, in all the IPCC scenarios, are projected to be, by 2100, substantially higher than they are in Europe and the United States today. This may happen - indeed I hope it will, and it should certainly cheer up those who might otherwise be depressed by the climate alarmists - but it is clear that the IPCC's scenarios fail to capture the realistic range of possibilities.

As to the IPCC's projections of the rate of growth of carbon dioxide emissions which these rates of economic growth may be expected to generate, the position is even more perplexing. Over the past 30 years the annual growth in world carbon dioxide emissions has been roughly half the rate of growth of the economy as a whole, and within those 30 years the energy intensity of growth has been steadily declining.

This is hardly surprising. In the first place, economic progress is a story of increasing efficiency in the use of all factors of production. In the case of labour, this is customarily referred to as growth in productivity; but precisely the same applies to energy. Secondly, the pattern of world economic growth has been changing, with services, which are less energy-intensive, growing faster than manufacturing, which is more so.

What is surprising, however, is that every one of the IPCC's scenarios for the 21st century assume, without offering any evidence, that this trend will now be abruptly reversed, and that as a result the growth in carbon emissions per unit of output will be significantly greater than in the recent past. It is clear, to say the least, that the IPCC scenarios do not capture the true range of plausible futures.

Thus there is a pronounced upward bias in its emissions scenarios, which of course feeds directly into a pronounced upward bias in projected climate change. And that is assuming, as the IPCC does, that the whole of the 0.60C warming that occurred during the 20th century was attributable to man-made emissions - which, as we have seen, is itself distinctly uncertain.

Does all this mean that we can forget about the threat of climate change altogether? I do not believe that would be wise, not least because natural climate variations are likely to continue to occur, irrespective of human actions. But what it does mean is that we need to stand back and think more rationally about the most cost-effective form of insurance policy to take out against a supposed man-made threat which is both less certain and less urgent than is commonly supposed, but which, together with natural variation, cannot altogether be dismissed as a threat.

It is clear that the present approach, under which the industrialised countries of the world agree to somewhat arbitrarily assigned fixed limits to their carbon dioxide emissions by a specified date - the so-called Kyoto system - is the most expensive and least rational

insurance policy, and that the sooner it is abandoned the better.

Even its strongest advocates admit that, even if fully implemented (which it is now clear it will not be), the existing Kyoto agreement, which came into force last year and expires in 2012, would do virtually nothing to reduce future rates of global warming. Its importance, in its advocates' eyes, is as the first step towards further such agreements of a considerably more restrictive nature. But this is wholly unrealistic, and fundamentally flawed for a number of reasons. In the first place, the United States, the largest source of carbon dioxide emissions, has refused to ratify the treaty and has made clear its intention of having no part in any similar future agreements. And if anyone should imagine that this is simply an eccentricity of the present Bush administration, it is worth recalling that, during the Clinton presidency, the US Senate voted by an eloquent majority of 95 to 0 against ratifying Kyoto.

In the second place, the developing countries - including such major contributors to future carbon dioxide emissions as China, India and Brazil - are effectively outside the process and determined to remain so. It is this that has led to the creation of the so-called 'Asia-Pacific partnership on clean development and climate', a counter-Kyoto grouping of the United States, China, India, Australia, Japan and South Korea, which held its inaugural meeting earlier this year.

The developing countries' argument is a simple one. They contend that the industrialised countries of the Western world achieved their prosperity on the basis of cheap carbon-based energy; and that it is now the turn of the poor developing countries to emulate them. And they add that if there is a problem now of excessive carbon dioxide concentrations in the Earth's atmosphere, it is the responsibility of those who caused it to remedy it.

Be that as it may, the consequences are immense. China alone last year embarked on a programme of building 562 large coal-fired power stations by 2012 - that is, a new coal-fired power station every five days for seven years. Since coal-fired power stations emit roughly twice as much carbon dioxide per gigawatt of electricity as gas-fired ones, it is not surprising that it is generally accepted that within the next 20 years China will overtake the United States as the largest source of emissions. India, which like China has substantial indigenous coal reserves, is set to follow a similar path, as is Brazil.

Then there is the cost of the Kyoto approach to consider. The logic of Kyoto is to make emissions permits sufficiently scarce to raise their price to the point where carbon-based energy is so expensive that carbon-free energy sources, and other carbon-saving measures, become fully economic. This clearly involves a very much greater rise in energy prices than anything we have yet seen. There must be considerable doubt whether this is politically sustainable - particularly when the economic cost, in terms of slower economic growth, would be substantial.

In reality, if the Kyoto approach were to be pursued beyond 2012, which is - fortunately - most unlikely, the price increase would in practice be mitigated in the global economy in which we now live. For as energy prices in Europe started to rise, with the prospect of further rises to come, energy-intensive industries and processes would progressively close down in Europe and relocate in countries like China, where relatively cheap energy was still available.

No doubt Europe could, at some cost, adjust to this, as it has to the migration of most of its textile industry to China and elsewhere. But it is difficult to see the point of it. For if carbon

dioxide emissions in Europe are reduced only for them to be further increased in China, there is no net reduction in global emissions at all. Indeed, given the nature of Chinese power generation, there might well be an increase.

So, if not Kyoto, what is the most sensible approach?

Far and away the most cost-effective policy for the world to adopt is to identify the most harmful consequences that may flow from global warming and, if they start to occur, to take action to counter them. There are three reasons that this approach is the most cost-effective. The first is that most of the likely harmful consequences of climate change are not new problems but simply the exacerbation of existing ones, so that addressing these will bring benefits even if there is no further global warming at all. The second reason is that, unlike tackling emissions, this approach will bring benefits whatever the cause of the warming, whether natural or man-made. And the third reason that this would be the most cost-effective way to proceed is that there are benefits as well as costs from global warming. Globally, the costs may well exceed the benefits - although here in northern Europe it is quite possible that, over the next 100 years, the benefits will exceed the costs - but it is clear that a policy of addressing directly the adverse effects enables us all to pocket the benefits while diminishing the costs.

What, then, are the principal adverse consequences of global warming?

First and foremost, there is the problem of coastal flooding as sea levels rise. Sea levels have in fact been rising very gradually for as long as records exist, and even the IPCC admits that there is little sign of any acceleration. But it could happen, and there is a clear case for government money to be spent on improving sea defences in low-lying coastal areas. The Dutch, after all, have been doing this very effectively for 500 years. The governments of the richer countries can do it for themselves; but in the case of the poorer countries, such as Bangladesh, there is an obvious argument for international assistance.

A second identified cost of global warming is damage to agriculture and food production as the climate changes. This is almost certainly exaggerated in the IPCC studies, which assume that farmers carry on much as before - the so-called 'dumb farmer' hypothesis. In reality they would adapt by switching to strains or crops better suited to warmer climates, and indeed by cultivating areas which have hitherto been too cold to be economic; so little government action would be required.

A third alleged threat from climate change is that of water shortage. In fact, the volume of water flowing down the world's rivers has increased over the 20th century as a whole. But in any event, there is massive wastage of water at present, and clearly ample scope for water conservation measures, including in particular the pricing of water - which would also help on the farming front.

Addressing these specific consequences is not only far and away the most cost-effective approach to global warming: it also buys time. Time to learn to understand better the highly uncertain science of climate change; and time to allow technology to develop more economic sources of low-carbon energy than we have now. And on precautionary grounds it may be sensible for governments to use this time to encourage both low-carbon technological development and its diffusion.

It has to be said that this is not an easy message to get across, not least because climate change is so often discussed in terms of belief rather than reason.

It is, I suspect, no accident that it is in Europe that climate change absolutism has found the most fertile soil. For it is Europe that has become the most secular society in the world, where the traditional religions have the weakest popular hold. Yet people still feel the need for the comfort and higher values that religion can provide; and it is the quasi-religion of green alarmism and what has been termed global salvationism - of which the climate change issue is the most striking example, but by no means the only one - which has filled the vacuum, with reasoned questioning of its mantras regarded as a form of blasphemy.

But that can be no basis for rational policy-making.

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