

THE STERN REPORT

SOME EARLY CRITICISMS
NOVEMBER 2006

"In order to manage risk, you must scare people".

-- Lord Giddens, UK



The Center for Science and Public Policy - 209 Pennsylvania Ave. SE, Suite 2100 - Washington, D.C. 20003
202-454-5249 – www.scienceandpolicy.org

THE STERN REPORT:

http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm

*Basic physical and biological principles indicate that impacts in many sectors will become disproportionately more severe with rising temperatures. Some of these effects are summarised below, but are covered in detail in the relevant section of the chapter. **Empirical support for these relationships is lacking.***

-- The Stern Report

A mathematician, an accountant and an economist apply for the same job.

The interviewer calls in the mathematician and asks "What do two plus two equal?" The mathematician replies "Four." The interviewer asks "Four, exactly?" The mathematician looks at the interviewer incredulously and says "Yes, four, exactly."

Then the interviewer calls in the accountant and asks the same question "What do two plus two equal?" The accountant says "On average, four - give or take ten percent, but on average, four."

Then the interviewer calls in the economist and poses the same question "What do two plus two equal?" The economist gets up, locks the door, closes the shade, sits down next to the interviewer and says "What do you want it to equal?"

Since the science and the scenarios are still so uncertain, climate change has been adopted as the vanguard for further taxation and a curb on British consumerism. Using the expansion of the state and taxes, rather than market mechanisms, our politicians will dampen our economic growth, steal our wealth, and wrap us in their parasitical hairshirt. The only light in this gloom is that the British electorate may reject such alarmism and the example of our political stupidity will lead India and other nations to seek technological and free-market solutions that do not curb their march away from poverty.

-- Philip Chaston

"Unless we announce disasters no one will listen."

-- Sir John Houghton

The Stern report is little but grandiose scare-mongering. It would be irresponsible in the extreme for politicians to make major policy changes - and major economic commitments - on such specious arguments.

-- Piers Akerman, Daily Telegraph, Australia

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SUMMARY OF CRITICISMS

The Stern Report has *four central defects*, each of which tends speciously to reinforce the "consensus" case:

First, the likely temperature and other climatic effects of global warming are exotically overstated, producing conclusions that are in many respects more extreme than those of the UN, with few of the caveats and qualifications which are rightly included in the UN's technical reports (though usually omitted from its Summaries for Policymakers);

Secondly, the likely cost of investment now to prevent future cataclysm is exotically underestimated, suggesting that just 1% of GDP spent now and forever will be enough to solve the problem, when previous UN estimates have put the cost at not less than 5% of GDP pa. Given that Kyoto is costing \$50 billion and counting to achieve a temperature reduction of 0.04C (and only then if all Kyoto signers meet their targets, which most won't), spending \$450bn pa won't solve the problem. The UN's draft shows that previous CO2 emissions will continue to provide half the projected temperature increase even if emissions are capped at present levels. Stern makes no allowance for this.

Thirdly, Stern's proposal amounts to a prodigious misallocation of resources. On the UN's own figures, \$75 billion pa, or less than a fifth of the \$450 billion annual spending on climate-change remediation proposed by Stern, would permit eradication of several major diseases, and the supply of clean water, basic health care and elementary education to the entire population that now lacks these benefits. The real problem is not emission of ghgs: it's the coming worldwide energy shortage.

Fourthly, Stern's rate of discounting to present value the future income-stream from investment now in remedial measures is less than half the minimum rate which a commercial entity would use, and the economic convention that when deciding when as well as whether to invest one does not invest until the n.p.v. of the return is shown to be at least double the investment is altogether ignored.

Ignore Stern. It was a gesture designed to try to influence third-world countries at Nairobi. My articles were timed to ensure that the chancelleries of the relevant countries paid no attention to Stern. They duly paid no attention. The UN, in the final draft of the adaptation and mitigation segments of its next report (I haven't seen these sections) may well quote Stern, because its other purpose was to give the UN a source of economic argument that made its own daft calculations look reasonable.

THE STERN REPORT

SOME EARLY CRITICISMS
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The Reputed Issues

London Press Accounts of Stern report main points



<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/10/30/ngreen330.xml>

UK Telegraph

Last Updated: 1:40am GMT 30/10/2006

- On current trends, average global temperatures will rise by 2C to 3C within 50 years.
- If emissions continue to grow, the Earth could warm by several more degrees, with severe consequences that would hit poor countries most.
- Stabilising greenhouse gases in the atmosphere will cost about one per cent of annual global output by 2050. If no action is taken, climate change will reduce global consumption per head by between five and 20 per cent.
- The global power sector will have to be at least 60 per cent decarbonised by 2050 to stabilise greenhouse gases.
- Markets for low-carbon energy products are likely to be worth at least £265 billion per year by 2050.
- Worldwide incentives to encourage the use of new low-carbon technologies should be raised by two to five times from the current level of some £18 billion a year.
- Deforestation emissions are estimated to represent more than 18 per cent of global emissions, more than the global transport sector.
- The poorest developing countries will be hit earliest and hardest by climate change.

Recommended actions

UK Guardian

<http://environment.guardian.co.uk/climatechange/story/0,,1935211,00.html>

- Three elements of policy are required for an effective response: carbon pricing, technology policy and energy efficiency.

- Carbon pricing, through taxation, emissions trading or regulation, will show people the full social costs of their actions. The aim should be a global carbon price across countries and sectors.
- Emissions trading schemes, like that operating across the EU, should be expanded and linked.
- Technology policy should drive the large-scale development and use of a range of low-carbon and high-efficiency products.
- Globally, support for energy research and development should at least double; support for the deployment of low-carbon technologies should be increased up to five times.
- International product standards could be introduced.
- Large-scale international pilot programmes to explore the best ways to curb deforestation should be started very quickly.
- Climate change should be fully integrated into development policy, and rich countries should honour pledges to increase support through overseas development assistance.
- International funding should support improved regional information on climate change impacts.
- International funding should go into researching new crop varieties that will be more resilient to drought and flood.

Economic impacts

- The benefits of strong, early action considerably outweigh the costs.
- Unabated climate change could cost the world at least 5% of GDP each year; if more dramatic predictions come to pass, the cost could be more than 20% of GDP.
- The cost of reducing emissions could be limited to around 1% of global GDP; people could be charged more for carbon-intensive goods.
- Each tonne of CO₂ we emit causes damages worth at least \$85, but emissions can be cut at a cost of less than \$25 a tonne.
- Shifting the world onto a low-carbon path could eventually benefit the economy by \$2.5 trillion a year.
- By 2050, markets for low-carbon technologies could be worth at least \$500bn.
- What we do now can have only a limited effect on the climate over the next 40 or 50 years, but what we do in the next 10-20 years can have a profound effect on the climate in the second half of this century.

The Responses

BBC VIEWPOINT

<http://news.bbc.co.uk/1/hi/sci/tech/6115644.stm>



By Mike Hulme

[Mike Hulme is Professor of Environmental Sciences at the University of East Anglia, and Director of the Tyndall Centre for Climate Change Research]

As activists organised by the group Stop Climate Chaos gather in London to demand action, one of Britain's top climate scientists says the language of chaos and catastrophe has got out of hand.

Climate change is a reality, and science confirms that human activities are heavily implicated in this change.



Do images of climate-related chaos distort the scientific truth?

But over the last few years a new environmental phenomenon has been constructed in this country - the phenomenon of "catastrophic" climate change.

It seems that mere "climate change" was not going to be bad enough, and so now it must be "catastrophic" to be worthy of attention.

The increasing use of this pejorative term - and its bedfellow qualifiers "chaotic", "irreversible", "rapid" - has altered the public discourse around climate change.

This discourse is now characterised by phrases such as "climate change is worse than we thought", that we are approaching "irreversible tipping in the Earth's climate", and that we are "at the point of no return".

It seems that we, the professional climate scientists, who are now the (catastrophe) skeptics.

I have found myself increasingly chastised by climate change campaigners when my public statements and lectures on climate change have not satisfied their thirst for environmental drama and exaggerated rhetoric.

It seems that it is we, the professional climate scientists, who are now the (catastrophe) skeptics. How the wheel turns.

Boarding the bandwagon

Some recent examples of the catastrophists include Tony Blair, who a few weeks back warned in an open letter to EU head of states: "We have a window of only 10-15 years to take the steps we need to avoid crossing a catastrophic tipping point."

Today, a mass demonstration in Trafalgar Square will protest, aiming to "stop climate chaos" - the name for a coalition of environmental activists and faith-based organisations.

The BBC broadcast in May its Climate Chaos season of programmes. There is even a publicly-funded science research project called Rapid.

Why is it not just campaigners, but politicians and scientists too, who are openly confusing the language of fear, terror and disaster with the observable physical reality of climate change, actively ignoring the careful hedging which surrounds science's predictions?

James Lovelock's book *The Revenge of Gaia* takes this discourse to its logical endpoint - the end of human civilisation itself.

What has pushed the debate between climate change scientists and climate sceptics to now being between climate change scientists and climate alarmists?

I believe there are three factors now at work.

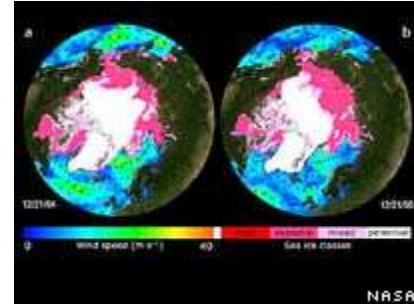
First, the discourse of catastrophe is a campaigning device being mobilised in the context of failing UK and Kyoto Protocol targets to reduce emissions of carbon dioxide.

The signatories to this UN protocol will not deliver on their obligations. This bursting of the campaigning bubble requires a determined reaction to raise the stakes - the language of climate catastrophe nicely fits the bill.

Hence we now have the militancy of the Stop Climate Chaos activists and the megaphone journalism of the Independent newspaper, with supporting rhetoric from the prime minister and senior government scientists.

Others suggest that the sleeping giants of the Gaian Earth system are being roused from their millennia of slumber to wreck havoc on humanity.

Second, the discourse of catastrophe is a political and rhetorical device to change the frame of reference for the emerging negotiations around what happens when the Kyoto Protocol runs out after 2012.



Scenarios of climate change are significant enough without invoking catastrophe and chaos as unguided weapons

The Exeter conference of February 2005 on "Avoiding Dangerous Climate Change" served the government's purposes of softening-up the G8 Gleneagles summit through a frenzied week of "climate change is worse than we thought" news reporting and **group-think**.

By stage-managing the new language of catastrophe, the conference itself became a tipping point in the way that climate change is discussed in public.

Third, ***the discourse of catastrophe allows some space for the retrenchment of science budgets.***

It is a short step from claiming these catastrophic risks have physical reality, saliency and are imminent, to implying that one more "big push" of funding will allow science to quantify them objectively.

We need to take a deep breath and pause.

Fear and terror

The language of catastrophe is not the language of science. It will not be visible in next year's global assessment from the world authority of the Intergovernmental Panel on Climate Change (IPCC).

To state that climate change will be "catastrophic" hides a cascade of value-laden assumptions which do not emerge from empirical or theoretical science.

Is any amount of climate change catastrophic?
Catastrophic for whom, for where, and by when?
What index is being used to measure the catastrophe?



The language of fear and terror operates as an ever-weakening vehicle for effective communication or inducement for behavioural change.

The language of politicians can be as strong as that of campaigners.

This has been seen in other areas of public health risk. Empirical work in relation to climate change communication and public perception shows that it operates here too.

Framing climate change as an issue which evokes fear and personal stress becomes a self-fulfilling prophecy. By "sexing it up" we exacerbate, through psychological amplifiers, the very risks we are trying to ward off.

The careless (or conspiratorial?) translation of concern about Saddam Hussein's putative military threat into the case for WMD has had major geopolitical repercussions.

We need to make sure the agents and agencies in our society which would seek to amplify climate change risks do not lead us down a similar counter-productive pathway.

The IPCC scenarios of future climate change - warming somewhere between 1.4 and 5.8 Celsius by 2100 - are significant enough without invoking catastrophe and chaos as unguided weapons with which forlornly ***to threaten society into behavioural change.***

I believe climate change is real, must be faced and action taken. But the discourse of catastrophe is in danger of tipping society onto a negative, depressive and reactionary trajectory.

Climate Chaos? Don't believe it

<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/11/05/nosplit/nwar m05.xml>

Download references and detailed calculations here:

<http://www.telegraph.co.uk/news/graphics/2006/11/05/warm-refs.pdf;jsessionid=WJBXZOMVYUQWJQFIQMGCFFWAVCBQUIV0>

By Christopher Monckton

Sunday Telegraph UK

The Stern report last week predicted dire economic and social effects of unchecked global warming. In what many will see as a highly controversial polemic, Christopher Monckton disputes the 'facts' of this impending apocalypse and accuses the UN and its scientists of distorting the truth

Last week, Gordon Brown and his chief economist both said global warming was the worst "market failure" ever. That loaded soundbite suggests that the "climate-change" scare is less about saving the planet than, in Jacques Chirac's chilling phrase, "creating world government". This week and next, I'll reveal how politicians, scientists and bureaucrats contrived a threat of Biblical floods, droughts, plagues, and extinctions worthier of St John the Divine than of science.



Biblical droughts, floods, plagues and extinctions?

Sir Nicholas Stern's report on the economics of climate change, which was published last week, says that the debate is over. It isn't. There are more greenhouse gases in the air than there were, so the world should warm a bit, but that's as far as the "consensus" goes. After the recent hysteria, you may not find the truth easy to believe.

The Royal Society says there's a worldwide scientific consensus. It brands Apocalypse-deniers as paid lackeys of coal and oil corporations. I declare my interest: I once took the taxpayer's shilling and advised Margaret Thatcher, FRS, on scientific scams and scares. Alas, not a red cent from Exxon.

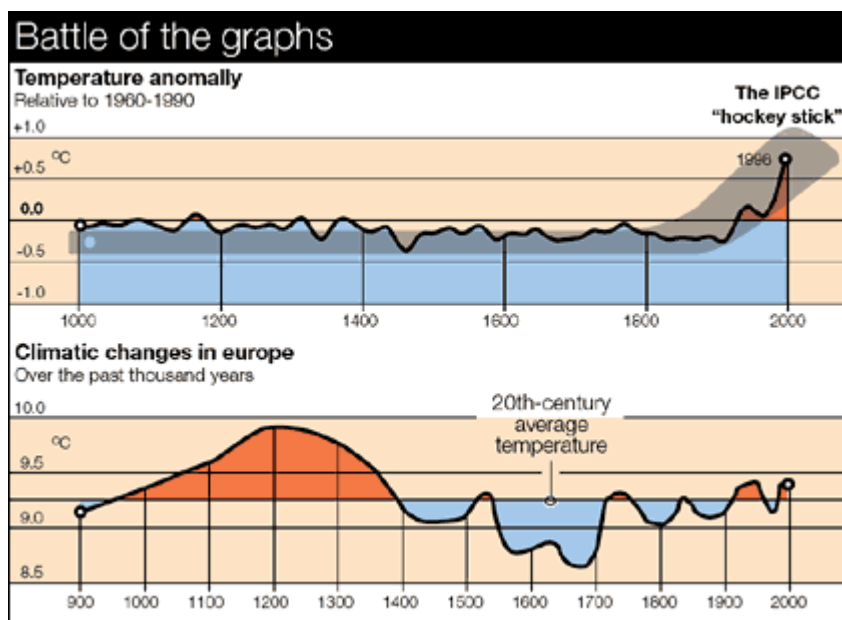
In 1988, James Hansen, a climatologist, told the US Congress that temperature would rise 0.3C by the end of the century (it rose 0.1C), and that sea level would rise several feet (no, one inch). The UN set up a transnational bureaucracy, the Intergovernmental Panel on Climate Change (IPCC). The UK taxpayer unwittingly meets the entire cost of its scientific team, which, in 2001, produced the Third Assessment Report, a Bible-length document presenting apocalyptic conclusions well beyond previous reports.

This week, I'll show how the UN undervalued the sun's effects on historical and contemporary climate, slashed the natural greenhouse effect, overstated the past century's temperature increase, repealed a fundamental law of physics and tripled the man-made greenhouse effect.

Next week, I'll demonstrate the atrocious economic, political and environmental cost of the high-tax, zero-freedom, bureaucratic centralism implicit in Stern's report; I'll compare the global-warming scare with previous sci-fi alarms; and I'll show how the environmentalists' "precautionary principle" (get the state to interfere now, just in case) is killing people.

So to the scare. First, the UN implies that carbon dioxide ended the last four ice ages. It displays two 450,000-year graphs: a sawtooth curve of temperature and a sawtooth of airborne CO₂ that's scaled to look similar. Usually, similar curves are superimposed for comparison. The UN didn't do that. If it had, the truth would have shown: the changes in temperature preceded the changes in CO₂ levels.

Next, the UN abolished the medieval warm period (the global warming at the end of the First Millennium AD). In 1995, David Deming, a geoscientist at the University of Oklahoma, had written an article reconstructing 150 years of North American temperatures from borehole data. He later wrote: "With the publication of the article in Science, I gained significant credibility in the community of scientists working on climate change. They thought I was one of them, someone who would pervert science in the service of social and political causes. One of them let his guard down. A major person working in the area of climate change and global warming sent me an astonishing email that said: 'We have to get rid of the Medieval Warm Period.' "



So they did. The UN's second assessment report, in 1996, showed a 1,000-year graph demonstrating that temperature in the Middle Ages was warmer than today. But the 2001 report contained a new graph showing no medieval warm period. It wrongly concluded that the 20th century was the warmest for 1,000 years. The graph looked like an ice hockey-stick. The wrongly flat AD1000-AD1900 temperature line was the shaft: the uptick from 1900 to 2000 was the blade. Here's how they did it:

- They gave one technique for reconstructing pre-thermometer temperature 390 times more weight than any other (but didn't say so).
- The technique they overweighted was one which the UN's 1996 report had said was unsafe: measurement of tree-rings from bristlecone pines. Tree-rings are wider in warmer years, but pine-rings are also wider when there's more carbon dioxide in the air: it's plant food. This carbon dioxide fertilisation distorts the calculations.
- They said they had included 24 data sets going back to 1400. Without saying so, they left out the set showing the medieval warm period, tucking it into a folder marked "Censored Data".
- They used a computer model to draw the graph from the data, but scientists later found that the model almost always drew hockey-sticks even if they fed in random, electronic "red noise".

The large, full-colour "hockey-stick" was the key graph in the UN's 2001 report, and the only one to appear six times. The Canadian Government copied it to every household. Four years passed before a leading scientific journal would publish the truth about the graph. Did the UN or the Canadian government apologise? Of course not. The UN still uses the graph in its publications.

Even after the "hockey stick" graph was exposed, scientific papers apparently confirming its abolition of the medieval warm period appeared. The US Senate asked independent statisticians to investigate. They found that the graph was meretricious, and that known associates of the scientists who had compiled it had written many of the papers supporting its conclusion.

The UN, echoed by Stern, says the graph isn't important. It is. Scores of scientific papers show that the medieval warm period was real, global and up to 3C warmer than now. Then, there were no glaciers in the tropical Andes: today they're there. There were Viking farms in Greenland: now they're under permafrost. There was little ice at the North Pole: a Chinese naval squadron sailed right round the Arctic in 1421 and found none.

The Antarctic, which holds 90 per cent of the world's ice and nearly all its 160,000 glaciers, has cooled and gained ice-mass in the past 30 years, reversing a 6,000-year melting trend. Data from 6,000 boreholes worldwide show global temperatures were higher in the Middle Ages than now. And the snows of Kilimanjaro are vanishing not because summit temperature is rising (it isn't) but because post-colonial deforestation has dried the air. Al Gore please note.

In some places it was also warmer than now in the Bronze Age and in Roman times. It wasn't CO₂ that caused those warm periods. It was the sun. So the UN adjusted the maths and all but extinguished the sun's role in today's warming. Here's how:

- The UN dated its list of "forcings" (influences on temperature) from 1750, when the sun, and consequently air temperature, was almost as warm as now. But its start-date for the increase in world temperature was 1900, when the sun, and temperature, were much cooler.
- Every "forcing" produces "climate feedbacks" making temperature rise faster. For instance, as temperature rises in response to a forcing, the air carries more water vapour, the most important greenhouse gas; and polar ice melts, increasing heat absorption. Up goes the temperature again. The UN more than doubled the base forcings from greenhouse gases to allow for climate feedbacks. It didn't do the same for the base solar forcing.

Two centuries ago, the astronomer William Herschel was reading Adam Smith's *Wealth of Nations* when he noticed that quoted grain prices fell when the number of sunspots rose. Gales of laughter ensued, but he was right. At solar maxima, when the sun was at its hottest and sunspots showed, temperature was warmer, grain grew faster and prices fell. Such observations show that even small solar changes affect climate detectably. But recent solar changes have been big.

Sami Solanki, a solar physicist, says that in the past half-century the sun has been warmer, for longer, than at any time in at least the past 11,400 years, contributing a base forcing equivalent to a quarter of the past century's warming. That's before adding climate feedbacks.

The UN expresses its heat-energy forcings in watts per square metre per second. It estimates that the sun caused just 0.3 watts of forcing since 1750. Begin in 1900 to match the temperature start-date, and the base solar forcing more than doubles to 0.7 watts. Multiply by 2.7, which the Royal Society suggests is the UN's current factor for climate feedbacks, and you get 1.9 watts – more than six times the UN's figure.

The entire 20th-century warming from all sources was below 2 watts. The sun could have caused just about all of it.

Next, the UN slashed the natural greenhouse effect by 40 per cent from 33C in the climate-physics textbooks to 20C, making the man-made additions appear bigger.

Then the UN chose the biggest 20th-century temperature increase it could find. Stern says: "As anticipated by scientists, global mean surface temperatures have risen over the past century." As anticipated? Only 30 years ago, scientists were anticipating a new Ice Age and writing books called *The Cooling*.

In the US, where weather records have been more reliable than elsewhere, 20th-century temperature went up by only 0.3C. AccuWeather, a worldwide meteorological service, reckons world temperature rose by 0.45C. The US National Climate Data Centre says 0.5C. Any advance on 0.5? The UN went for 0.6C, probably

distorted by urban growth near many of the world's fast-disappearing temperature stations.

The number of temperature stations round the world peaked at 6,000 in 1970. It's fallen by two-thirds to 2,000 now: a real "hockey-stick" curve, and an instance of the UN's growing reliance on computer guesswork rather than facts.

Even a 0.6C temperature rise wasn't enough. So the UN repealed a fundamental physical law. Buried in a sub-chapter in its 2001 report is a short but revealing section discussing "lambda": the crucial factor converting forcings to temperature. The UN said its climate models had found lambda near-invariant at 0.5C per watt of forcing.

You don't need computer models to "find" lambda. Its value is given by a century-old law, derived experimentally by a Slovenian professor and proved by his Austrian student (who later committed suicide when his scientific compatriots refused to believe in atoms). The Stefan-Boltzmann law, not mentioned once in the UN's 2001 report, is as central to the thermodynamics of climate as Einstein's later equation is to astrophysics. Like Einstein's, it relates energy to the square of the speed of light, but by reference to temperature rather than mass.

The bigger the value of lambda, the bigger the temperature increase the UN could predict. Using poor Ludwig Boltzmann's law, lambda's true value is just 0.22-0.3C per watt. In 2001, the UN effectively repealed the law, doubling lambda to 0.5C per watt. A recent paper by James Hansen says lambda should be 0.67, 0.75 or 1C: take your pick. Sir John Houghton, who chaired the UN's scientific assessment working group until recently, tells me it now puts lambda at 0.8C: that's 3C for a 3.7-watt doubling of airborne CO₂. Most of the UN's computer models have used 1C. Stern implies 1.9C.

On the UN's figures, the entire greenhouse-gas forcing in the 20th century was 2 watts. Multiplying by the correct value of lambda gives a temperature increase of 0.44 to 0.6C, in line with observation. But using Stern's 1.9C per watt gives 3.8C. Where did 85 per cent of his imagined 20th-century warming go? As Professor Dick Lindzen of MIT pointed out in The Sunday Telegraph last week, the UK's Hadley Centre had the same problem, and solved it by dividing its modelled output by three to "predict" 20th-century temperature correctly.

A spate of recent scientific papers, gearing up for the UN's fourth report next year, gives a different reason for the failure of reality to keep up with prediction. The oceans, we're now told, are acting as a giant heat-sink. In these papers the well-known, central flaw (not mentioned by Stern) is that the computer models' "predictions" of past ocean temperature changes only approach reality if they are averaged over a depth of at least a mile and a quarter.

Deep-ocean temperature hasn't changed at all, it's barely above freezing. The models tend to over-predict the warming of the climate-relevant surface layer up to threefold. A recent paper by John Lyman, of the US National Oceanic and Atmospheric Association, reports that the oceans have cooled sharply in the past two years. The computers didn't predict this. Sea level is scarcely rising faster today than a century ago: an inch every 15 years. Hansen now says that the oceanic "flywheel effect" gives us extra time to act, so Stern's alarmism is misplaced.

Finally, the UN's predictions are founded not only on an exaggerated forcing-to-temperature conversion factor justified neither by observation nor by physical law, but also on an excessive rate of increase in airborne carbon dioxide. The true rate is 0.38 per cent year on year since records began in 1958. The models assume 1 per cent per annum, more than two and a half times too high. In 2001, the UN used these and other adjustments to predict a 21st-century temperature increase of 1.5 to 6C. Stern suggests up to 10C.

Dick Lindzen emailed me last week to say that constant repetition of wrong numbers doesn't make them right. Removing the UN's solecisms, and using reasonable data and assumptions, a simple global model shows that temperature will rise by just 0.1 to 1.4C in the coming century, with a best estimate of 0.6C, well within the medieval temperature range and only a fifth of the UN's new, central projection.

Why haven't air or sea temperatures turned out as the UN's models predicted? Because the science is bad, the "consensus" is wrong, and Herr Professor Ludwig Boltzmann, FRS, was as right about energy-to-temperature as he was about atoms.

Operation Sunscreen

<http://www.tcsdaily.com/article.aspx?id=110206B>

by Arnold Kling

"Using the results from formal economic models, the Review estimates that if we don't act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more.

In contrast, the costs of action - reducing greenhouse gas emissions to avoid the worst impacts of climate change - can be limited to around 1% of global GDP each year."

While somewhat downplayed in the United States -- the *Washington Post* buried it on page 18 -- the review of the economics of climate change headed by former World Bank economist Nicholas Stern was well publicized in Europe. Government officials in the United Kingdom, for example, are using it as a guide for policy advocacy.



For this essay, I want to take as given the report's assessment of the cost of global warming. Also, I will take as given that the strategy of reducing emissions of carbon dioxide, which I call the de-industrialization strategy, would cost one percent of global GDP each year. I want to suggest exploring an alternative strategy for fighting global warming, which I call the climate engineering strategy.

Climate engineering, or what I call Operation Sunscreen, would mean trying to alter the heat absorption properties of the atmosphere. The goal might be to reduce average temperatures by, say, 2 degrees centigrade.

I have no idea how to reduce heat absorption, but one can imagine a number of possible approaches to climate engineering: putting reflectors out into space; using some physical or chemical process to "wash" carbon out of the atmosphere; or coming up with a way to reduce concentrations of water vapor (the most abundant greenhouse gas) in the atmosphere.

One is a Big Number

When the Stern Review says that the cost of the de-industrialization strategy "can be limited to around 1% of global GDP each year," that makes the cost seem small. The number 1, after all, is a low number.

However, when the cost of de-industrialization is converted to dollars, the number no longer seems trivial. According to [World Bank data](#), total world GDP in 2005 was over \$40 trillion dollars. One percent of that would be over \$400 billion dollars. What Stern is saying is that we should forego over \$400 billion a year to forestall global warming. Of course, his Review estimates that the cost of global warming would be far higher. Again, for the purpose of this essay I am not questioning that. Instead, I want to suggest that at a price of \$400 billion a year, it is worth investigating the possibility of alternatives to the de-industrialization strategy.

For example, imagine that Operation Sunscreen could be deployed for a one-time cost of \$50 billion, with annual maintenance costs of \$2 billion. That would clearly be far less costly to the world than a de-industrialization strategy that costs \$400 billion per year.

Another potential advantage of Operation Sunscreen is that we might produce more reliable management of global temperatures. For example, it would be rather a shame to toss away \$400 billion dollars a year using the de-industrialization strategy and then discover "Oops, the cause of global warming wasn't carbon-dioxide emissions after all. It must have been something else, because temperatures are still rising, even though we reduced emissions to levels that we thought would stabilize global temperature." Instead, climate engineering could reduce global average temperature regardless of whether global warming is caused by carbon-dioxide emissions or not.

Feasibility Study

I readily concede that I have no idea whether Operation Sunscreen can be carried out or what it might cost. What I would propose at this stage is that the National Science Foundation undertake a feasibility study concerning the climate engineering strategy. This feasibility study would examine various approaches in order to assess their costs, benefits, and risks.

I also will concede that I am not entirely comfortable putting the world's climate in the hands of scientists who attempt to engage in climate engineering. However, that discomfort is nothing compared with my fear of putting our future in the hands of

international bureaucrats who are eager to embrace de-industrialization and to engineer a reduction of world GDP of \$400 billion a year.

Arnold Kling is author of [Learning Economics](#).

Stern's report scare-mongering

By Piers Akerman
November 05, 2006 12:00
Daily Telegraph, Australia

Few government reports have been greeted with less scepticism than Nicholas Stern's scary scenario on climate change, but seldom has a report purporting to be a serious study been so deficient in scientific back-up.

While its contents have been taken as gospel by various interest groups, the media and the ALP, a number of bona fide experts are deeply concerned at the ***report's lack of any real intellectual rigour.***

Without gilding the lily, Dr Brian O'Brien, a strategic and environmental consultant, who was the foundation Director and Chairman of the WA Environmental Protection Authority, and previously Professor of Physics and Space Science in the US, has all the credentials necessary to make a reasoned, educated review of such a report.

His verdict is damning. He says that not only are its forecasts out of whack with the last report of the Intergovernmental Panel on Climate Change (IPCC) of 2001, but also that ***if Stern wasn't so driven by political goals*** he should have waited until next year when the IPCC's fourth report is due to be published.

"I think they're being quite naughty," he said. "All this apocalyptic talk when the situation is not so cataclysmic that they couldn't have waited till 2007 for the best available transparent data rather than rely on the coupling together of a five-year-old, out-of-date IPCC report, amended with references to a difficult-to-obtain German publication *Avoiding Dangerous Climate Change*, edited by H.J.Schellnhuber (Cambridge University Press), which is not only not readily available but ***was not subjected to the usual process of peer review.***"

Professor O'Brien, who has a number of experiments still orbiting Earth aboard various satellites is currently assisting NASA recover data from the Apollo 11 program which the space agency "misplaced" before coding, was clearly exasperated when he spoke with me from his Perth home.

"There are a number of obvious problems with the report," he said, "not least being that Stern relies on the IPCC's 2001 report which estimated the maximum sea level rise forecast by 2100 would be somewhere between 9cm and 88cm and a leaked report of next year's IPCC report says the rise is possibly between 14cm and 43cm."

Clearly, ***Stern has chosen to take the darkest possible view of the future.*** The professor said that in its initial report in 1995, the IPCC explicitly stated that its

definition of climate change differed from that of the United Nations and Kyoto, because their definition included natural events plus human activities.

"The first question, then, is what is climate change, if the scientific group advising the UN is thinking about natural phenomena as well as the scary stuff?" he asked. "How about the so-called Federation drought which ran from 1895 to 1903, and the drought which ran from 1991 to '95, or the two in between, which had the most devastating effect in extent and on primary production, according to the Australian Bureau of Statistics Year Book for 2001?"

Professor O'Brien referred to remarks made by Robert White, the President of the US National Academy of Engineering to the annual general meeting of the US Academy of Science, in Washington, in April, 1989, where he said: "Whether we in the scientific community like it or not, **we have awakened the political beast**; we are confronted with an inverted pyramid of knowledge.

"A huge and growing mass of proposals for policy action is balanced upon a handful of real facts."

Professor O'Brien described a diagram of a big inverted pyramid, standing on a tiny little apex of a few facts such as increasing concentration of gases and a mass of assumptions rising on top of that, and exploding into all sorts of models and scenarios.

The Stern report, he said, is now at the peak of the apocalyptic drawing. He said the Stern report's sky-is-falling approach to climate change was exactly the same as the technique used at the first world conference on the changing atmosphere, and implications for global security held in Toronto in June, 1988.

The opening quote at the conference, attended by more than 300 people from 46 nations was: "Humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to a global nuclear war."

This alarmist approach reeked of stupidity, snake oil, and misguided gospel preaching but was in line with a formula adopted by the first chairman of the IPCC, Sir John Houghton, who produced the IPCC's first three reports in 1990, 1995 and 2001 and wrote in his book *Global Warming, The Complete Briefing*, in 1994: **"Unless we announce disasters no one will listen."**

Evoking the Great Depression and World War II may garner headlines for climate change but, without a factual basis, **the Stern report is little but grandiose scare-mongering.**

It would be irresponsible in the extreme for politicians to make major policy changes - and major economic commitments - on such specious arguments.

Stern Review

The dodgy numbers behind the latest warming scare.

<http://www.opinionjournal.com/extra/?id=110009182>

Wall Street Journal Editorial Page

BY BJORN LOMBORG

Thursday, November 2, 2006 12:01 a.m. EST

The report on climate change by Nicholas Stern and the U.K. government has sparked publicity and scary headlines around the world. Much attention has been devoted to Mr. Stern's core argument that the price of inaction would be extraordinary and the cost of action modest.

Unfortunately, this claim falls apart when one actually reads the 700-page tome. Despite using many good references, the Stern Review on the Economics of Climate Change is selective and its conclusion flawed. Its fear-mongering arguments have been sensationalized, which is ultimately only likely to make the world worse off.



The review correctly points out that climate change is a real problem, and that it is caused by human greenhouse-gas emissions. Little else is right, however, and the report seems hastily put-together, with many sloppy errors. As an example, the cost of hurricanes in the U.S. is said to be both 0.13% of U.S. GDP and 10 times that figure.

The review is also one-sided, focusing almost exclusively on carbon-emission cuts as the solution to the problem of climate change. Mr. Stern sees increasing hurricane damage in the U.S. as a powerful argument for carbon controls. However, hurricane damage is increasing predominantly because there are more people with more goods to be damaged, settling in ever more risky habitats. Even if global warming does significantly increase the power of hurricanes, it is estimated that 95% to 98% of the increased damage will be due to demographics. The review acknowledges that simple initiatives like bracing and securing roof trusses and walls can cheaply reduce damage by more than 80%; yet its policy recommendations on expensive carbon reductions promise to cut the damages by 1% to 2% at best. That is a bad deal.

Mr. Stern is also selective, often seeming to cherry-pick statistics to fit an argument. This is demonstrated most clearly in the review's examination of the social damage costs of CO₂--essentially the environmental cost of emitting each extra ton of CO₂. The most well-recognized climate economist in the world is probably Yale University's William Nordhaus, whose "approach is perhaps closest in spirit to ours," according to the Stern review. Mr. Nordhaus finds that the social cost of CO₂ is \$2.50 per ton. Mr. Stern, however, uses a figure of \$85 per ton. Picking a rate even higher than the official U.K. estimates--that have themselves been criticized for being over the top--speaks volumes.

Mr. Stern tells us that the cost of U.K. flooding will quadruple to 0.4% from 0.1% of GDP due to climate change. However, we are not told that these alarming figures only hold true if one assumes that the U.K. will take no additional measures--essentially doing absolutely nothing and allowing itself to get flooded, perhaps time and again. In contrast, the U.K. government's own assumptions take into account a modest increase in flood prevention, finding that the cost will actually *decline* sharply to 0.04% of U.K. GDP, in spite of climate change. Why does Mr. Stern not share that information?

But nowhere is the imbalance clearer than in Mr. Stern's central argument about the costs and benefits of action on climate change. The review tells us that we should make significant cuts in carbon emissions to stabilize the concentration of atmospheric carbon dioxide at 550 ppm (parts per million). Yet such a stark recommendation is not matched by an explicit explanation of what this would mean in terms of temperature.

The U.N. Climate Panel estimates that stabilizing at 550 ppm would mean an increase in temperature of about 2.3 degrees Celsius in the year 2100. This might be several degrees below what would otherwise happen, but it might also be *higher*. Mr. Nordhaus estimates that the stabilization policy would reduce the rise in temperature from 2.53 degrees Celsius to just 2.42 degrees Celsius. One can understand the reluctance of the Stern review to advertise such a puny effect.



Most economists were surprised by Mr. Stern's large economic estimates of damage from global warming. Mr. Nordhaus's model, for example, anticipates 3% will be wiped off global GDP if nothing is done over the coming century, taking into account the risk for catastrophes. The Stern review purports to show that the cost is "larger than many earlier studies suggested."

On the face of it, Mr. Stern actually accepts Mr. Nordhaus's figure: Even including risks of catastrophe and non-market costs, he agrees that an increase of four degrees Celsius will cost about 3% of GDP. But he assumes that we will continue to pump out carbon far into the 22nd century--a rather unlikely scenario given the falling cost of alternative fuels, and especially if some of his predictions become clear to us toward the end of this century. Thus he estimates that the higher temperatures of eight degrees Celsius in the 2180s will be very damaging, costing 11% to 14% of GDP.

The Stern review then analyzes what the cost would be if everyone in the present and the future paid equally. Suddenly the cost estimate is not 0% now and 3% in 2100--but 11% of GDP right now and forever. If this seems like a trick, it is certainly underscored by the fact that the Stern review picks an extremely low discount rate, which makes the cost look much more ominous now.

But even 11% is not the last word. Mr. Stern suggests that there is a risk that the cost of global warming will be higher than the top end of the U.N. climate panel's estimates, inventing, in effect, a "worst-case scenario" even worse than any others on the table. Therefore, the estimated damage to GDP jumps to 15% from 11%.

Moreover, Mr. Stern admonishes that poor people count for less in the economic calculus, so he then inflates 15% to 20%.

This figure, 20%, was the number that rocketed around the world, although it is simply a much-massaged reworking of the standard 3% GDP cost in 2100--a figure accepted among most economists to be a reasonable estimate.

Likewise, Mr. Stern readjusts the cost of dealing with climate change. The U.N. found that the cost of 550 ppm stabilization would be somewhere around 0.2% to 3.2% of GDP today; he reports that costs could lie between -4% and 15% of GDP. The -4% is based on the suggestion that cutting carbon emissions could make us *richer* because revenue recycling could address inefficiencies in taxation--but the alleged inefficiencies, if correct, should be addressed no matter what the policies about climate change. The reason Mr. Stern nevertheless finds a very low cost estimate is because he only considers models with so-called Induced Technological Change. These models are known to reduce costs by about two percentage points because carbon cuts lead to an increase in research and development, which again makes further cuts cheaper. Thus Mr. Stern concludes that the costs are on average 1% of GDP, and in the summary actually claims that this is a maximum cost.



The Stern review's cornerstone argument for immediate and strong action now is based on the suggestion that doing nothing about climate change costs 20% of GDP now, and doing something only costs 1%. However, this argument hinges on three very problematic assumptions.

First, it assumes that if we act, we will not still have to pay. But this is not so--Mr. Stern actually tells us that his solution is "already associated with significant risks." Second, it requires the cost of action to be as cheap as he tells us--and on this front his numbers are at best overly optimistic. Third, and most importantly, it requires the cost of doing nothing to be a realistic assumption: But the 20% of GDP figure is inflated by an unrealistically pessimistic vision of the 22nd century, and by an extreme and unrealistically low discount rate. According to the background numbers in Mr. Stern's own report, climate change will cost us 0% now and 3% of GDP in 2100, a much more informative number than the 20% now and forever.

In other words: Given reasonable inputs, most cost-benefit models show that dramatic and early carbon reductions cost more than the good they do. Mr. Stern's attempt to challenge that understanding is based on a chain of unlikely assumptions.

Moreover, there is a fourth major problem in Mr. Stern's argument that has received very little attention. It seems naive to believe that the world's 192 nations can flawlessly implement Mr. Stern's multitrillion-dollar, century-long policy proposal. Will nobody try to avoid its obligations? Why would China and India even participate? And even if China got on board, would it be able to implement the policies? In 2002, China decided to cut sulfur dioxide (SO₂) emissions by 10%--they are now 27% *higher* despite SO₂ being nationally a much bigger health and environmental problem than climate change.



Why does all this matter? It matters because, with clever marketing and sensationalist headlines, the Stern review is about to edge its way into our collective consciousness. The suggestion that flooding will overwhelm us has already been picked up by commentators, yet going back to the background reports properly shows *declining* costs from flooding and fewer people at risk. The media is now quoting Mr. Stern's suggestion that climate change will wreak financial devastation that will wipe 20% off GDP, explicitly evoking memories of past financial catastrophes such as the Great Depression or World War II; yet the review clearly tells us that costs will be 0% now and just 3% in 2100.

It matters because Gordon Brown, Tony Blair and Nicholas Stern all profess that one of the major reasons that they want to do something about climate change is because it will hit the world's poor the hardest. Using a worse-than-worst-case scenario, Mr. Stern warns that the wealth of South Asia and Sub-Saharan Africa will be reduced by 10% to 13% in 2100 and suggests that effect would lead to 145 million more poor people.

Faced with such alarmist suggestions, spending just 1% of GDP or \$450 billion each year to cut carbon emissions seems on the surface like a sound investment. In fact, it is one of the least attractive options. Spending just a fraction of this figure--\$75 billion--the U.N. estimates that we could solve all the world's major basic problems. We could give everyone clean drinking water, sanitation, basic health care and education right now. Is that not better?

We know from economic models that dealing just with malaria could provide economic boosts to the order of 1% extra GDP growth per capita per year. Even making a very conservative estimate that solving *all* the major basic issues would induce just 2% extra growth, 100 years from now each individual in the developing world would be more than 700% richer. That truly trivializes Mr. Stern's 10% to 13% estimates for South Asia and Sub-Saharan Africa.

Last weekend in New York, I asked 24 U.N. ambassadors--from nations including China, India and the U.S.--to prioritize the best solutions for the world's greatest challenges, in a project known as Copenhagen Consensus. They looked at what spending money to combat climate change and other major problems could achieve. They found that the world should prioritize the need for better health, nutrition, water, sanitation and education, long before we turn our attention to the costly mitigation of global warning.

We all want a better world. But we must not let ourselves be swept up in making a bad investment, simply because we have been scared by sensationalist headlines.

Mr. Lomborg, author of "The Skeptical Environmentalist" (Cambridge, 2001), teaches at the Copenhagen Business School and is director of the Copenhagen Consensus Center.

Stern's Cherry Picking on Disasters and Climate Change

http://sciencepolicy.colorado.edu/prometheus/archives/climate_change/000973stern_s_cherry_pick.html

by Roger Pielke, Jr.

The [Stern Report](#) has this passage on p. 131:

The costs of extreme weather events are already high and rising, with annual losses of around \$60 billion since the 1990s (0.2% of World GDP), and record costs of \$200 billion in 2005 (more than 0.5% of World GDP). New analysis based on insurance industry data has shown that weather-related catastrophe losses have increased by 2% each year since the 1970s over and above changes in wealth, inflation and population growth/movement. If this trend continued or intensified with rising global temperatures, losses from extreme weather could reach 0.5 - 1% of world GDP by the middle of the century. If temperatures continued to rise over the second half of the century, costs could reach several percent of GDP each year, particularly because the damages increase disproportionately at higher temperatures.

The source is a paper prepared by Robert Muir-Wood and colleagues as [input to our workshop](#) last May on disasters and climate change. Muir-Wood et al. do report the 2% trend since 1970. What Stern Report does not say is that Muir-Wood et al. find no trend 1950-2005 and Muir-Wood et al. acknowledge that their work shows a very strong influence of 2004 and 2005 hurricane seasons in the United States. Muir-Wood et al. are therefore very cautious and responsible about their analysis. Presumably this is one reason why at the workshop Robert Muir-Wood signed on to our consensus statements, which said the following:

Because of issues related to data quality, the stochastic nature of extreme event impacts, length of time series, and various societal factors present in the disaster loss record, it is still not possible to determine the portion of the increase in damages that might be attributed to climate change due to GHG emissions . . . In the near future the quantitative link (attribution) of trends in storm and flood losses to climate changes related to GHG emissions is unlikely to be answered unequivocally.

The Stern Report's selective fishing out of a convenient statement from one of the background papers prepared for our workshop is a classic example of cherry picking a result from a diversity of perspectives, rather than focusing on the consensus of the entire spectrum of experts that participated in our meeting. The Stern Report even cherry picks from within the Muir-Wood et al. paper.

Why does this matter? The Stern Report uses the cherry-picked information as the basis for one of its important conclusions about the projected costs of climate change (on p. 138),

The costs of climate change for developed countries could reach several percent of GDP as higher temperatures lead to a sharp increase in extreme weather events and large-scale changes.

To support its argument the Stern Report further relies on a significantly flawed report from the Association of British Insurers, which we critiqued [here](#). Its

presentation of the future costs of disasters and climate change is highly selective to put it mildly.

I haven't yet read the whole Stern report, but if its treatment of disaster costs and climate change – an area where I do have some expertise – is indicative of its broader analysis, then Richard Tol's [comment in the open thread](#) would appear to be on target.

Posted on October 30

A stern review of Stern (Excerpts)

<http://julesandjames.blogspot.com/2006/10/stern-review-of-stern.html>

by James Annan

From my brief glance, it seems like he [Stern] uses two climate sensitivity distributions, one based on the 1.5-4.5C of Wigley and Raper (drawing on the IPCC TAR) and another higher range based on Murphy et al 2004. While he doesn't go as far as to use some of the rather silly pdfs that have been presented, he's clearly been strongly influenced by them, mentioning a 20% chance of climate sensitivity exceeding 5C a few times. Of course most of the exciting numbers being quoted from his report are those arising from the highest end of the higher range that he uses. I've said before and I'll say it again, **it seems quite a hostage to fortune to base policy decisions entirely on stuff that we are all pretty confident will not happen** (but merely disagree on the definition of "pretty confident").

Come on guys (and girls), it's time to come clean before this mess gets any worse. Just because it's in the forthcoming AR4 doesn't mean you have to defend the "consensus" to the death.

On top of the high climate sensitivity range, Stern uses the rather extreme A2 scenario (and essentially describes it as "business as usual") for his projections, even though it is already clear even 5 years on that we are falling behind this emissions pathway. I really think it's time the economists got their act together on this. And then he adds some feedbacks on top, based on results like those of the Hadley Centre model which has an extreme Amazon dieback due to having way too little rainfall in this region even before any global warming is considered. ***If the Japanese model had this behaviour everyone would just say it's a crap model but because it is HADCM3 it is supposed to be alarming.***

Anyway, my main beef is with the probabilistic estimation, because that's what I understand best. It seems crystal clear that the methods are intrinsically faulty - indeed the errors seem rather elementary once they are stated clearly - and it is long past the time that people should have been prepared to accept this and talk about it openly. Nature's comment that our criticisms "[apply more generally to a widespread methodological approach](#)" is hardly a valid defence of the science! Stern's results appear to be heavily dependent on the small probability of extremely bad consequences, so these problems may substantially weaken the value of his report. On the other hand, it might be the case that even with a climate sensitivity

of 2.5C and assuming a more moderate "business as usual" emissions growth, mitigation is still amply justified (personally I think action is justifiable on a number of grounds irrespective of the supposed "climate catastrophe").

A Second Hand Conjecture

<http://asecondhandconjecture.com/?p=224>

Posted by MichaelW

As a lawyer, I am quite familiar with the power that "experts" can hold over a jury of one's peers or even a judge. Subjects of a technical nature encourage abdication of thought and analysis to those dedicated to said subjects. Consequently, conclusory reports based entirely on unsupported assumptions are passed off as unassailable pronouncements as if shouted from the heights of [Mt. Olympus by Zeus](#) himself. Unfortunately, the failure to regard such reports with skepticism and scrutiny enables propaganda masquerading as science to be heralded without proper questioning about the agenda being advanced. The "[Stern Review on the Economics of Climate Change](#)" is just such a report that demands our skepticism and scrutiny.

The Associated Press summarizes the Stern Review (via [NYT](#)):

Unchecked global warming will devastate the world economy on the scale of the world wars and the Great Depression, a British government report said Monday, as the country launched a bid to convince doubters that environmentalism and economic growth can coincide.

[...]

Stern's 700-page report said evidence showed "that ignoring climate change will eventually damage economic growth."

"Our actions over the coming decades could create risks of major disruption to economic and social activity, later in this century and in the next, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century," he said.

The report said at current trends average global temperatures will rise by 3.6 to 5.4 degrees within the next 50 years or so, and the earth will experience several degrees more of warming if emissions continue to grow.

It said such warming could have effects such as melting glaciers, rising sea levels, declining crop yields, drinking water shortages, higher death tolls from malnutrition and heat stress, and widespread outbreaks of malaria and dengue fever. Developing countries often would be the hardest hit.

Pretty alarmist to say the least. To be fair, the AP report does include this bit of a disclaimer:

The report acknowledged that its predictions regarding GDP relied on sparse data about high temperatures and developing countries, and placed monetary values on human health and the environment, "which is conceptually, ethically and empirically very difficult."

And indeed, the Stern Review itself includes some rather revealing quotes such as the following (emphasis added):

Basic physical and biological principles indicate that impacts in many sectors will become disproportionately more severe with rising temperatures. Some of these effects are summarised below, but are covered in detail in the relevant section of the chapter. **Empirical support for these relationships is lacking.** Hitz and Smith (2004) reviewed studies that examined the nature of the relationship between the impacts of climate change and increasing global temperatures. They found increasingly adverse impacts for several climate-sensitive sectors but were not able to determine if the increase was linear or exponential (more details in Box 3.1). **For other sectors like water and energy where there was a mix of costs and benefits they found no consistent relationship with temperature.**

(SR, p. 60 "Box 3.1: The types of relationships between rising damages and sectoral impacts"). So if the report is based on empirically unsupported theories and analyses that have no relationship to temperature, how is it possible that it can conclude with such certainty that "[u]nchecked global warming **will devastate** the world economy on the scale of the world wars and the Great Depression"? As you may have guessed already, the Stern Review can make no such reliable claim since it is based on [highly dubious "science"](#) and unquestioned theory.

For example, consider this choice quote dismissing critics of the infamous "[Hockey Stick](#)" graph (emphasis added):

Climate change arguments do not rest on "proving" that the warming trend is unprecedented over the past Millennium. Whether or not this debate is now settled, this is only one in a number of lines of evidence for human induced climate change. The key conclusion, that the build-up of greenhouse gases in the atmosphere will lead to several degrees of warming, rests on the laws of physics and chemistry and a broad range of evidence beyond one particular graph.

(SR, p. 6 "Box 1.1: The 'Hockey Stick' Debate"). Now I ask you, if the bolded claim is true, how can we possibly discern natural temperature cycles from human-induced ones? In addition, why would such "evidence" of a trend be tirelessly flaunted to settle the debate on anthropogenic climate change, if it were unimportant to the debate? The answer is that the bolded claim above is an outright lie. In order to bully the world into "doing something" about climate change, one must necessarily presuppose that we have anything significant to do with such change in the first place. That the Stern Review parades such nonsense about in a report intended to be the end of all scientific debate on the matter, not only smacks of puerile arrogance, it signals the pre-ordained nature of this "report." Proponents of climate change don't have to "prove" anything to you. You are just required to sit back and take orders from your betters. It's much easier that way, after all, and obviates the unnecessary step of actually finding the truth through actual scientific analysis.

In fact, the Stern Review is not scientific in the least. It is a review of some published studies, using broadly defined "economic analysis" to support the conclusions reached by the purveyors of this nonsense. Calling this science would imply that there is evidence being reported on. Instead, the Stern Review employs models that rely on [faulty assumptions](#):

The Scientific Alliance believes that Sir Nicholas's talents have been misused. His calculations are based on the output of complex computer models, all constructed on the assumption that average global temperatures are directly linked to atmospheric levels of greenhouse gases – in particular carbon dioxide. His estimates are doubtless correct for the scenarios presented, but we question the validity of the starting point.

Martin Livermore, director of the Alliance, said "Evidence is building that climate is not driven primarily by human use of fossil fuels, as most people have been led to believe. There have been significant temperature changes during the last millennium, well before industrialisation, and the major influence of fluctuations in cosmic rays from the Sun have been under-represented in the work of the IPCC. The billions which this review says it is necessary to spend are likely to have little positive effect, and could be put to much better use in helping the world's poorest people to create better lives for themselves."

Moreover, the Stern Review does not employ any sort of cost-benefit analysis of climate change that one would expect based on the title of the report alone. The only costs and benefits encountered are those associated with mitigating the assumed damage caused by global warming. Nowhere is there any discussion of the benefits from such climate change, such as longer growing seasons, opening of the Northwest Passage, or reduced heating costs. Instead, the worst case scenario is assumed (e.g. see how often this phrase or an analogue is used and relied upon to support conclusions: "*The latest science suggests that the Earth's average temperature will rise by even more than 5 or 6°C if feedbacks amplify the warming effect of greenhouse gases*"), and the effects on the poorest and least adaptive populations of the world are the sole measures taken. Accordingly, the results of unabated climate change as predicted by the Stern Review assume only personal, and unaggregated responses from humans, that have little to no effect on the welfare of mankind as a whole. The failure to consider a dynamic human response will tend to exaggerate the effects of the already distorted climate change models. It would be a bit like placing someone in a hot tub, raising the temperature of the water, and expecting that person to just sit there and do nothing. The idea is absurd on its face. When considering the whole of human history and our proven ability to adapt to whatever changes are thrown at us, it positively ludicrous to make such assumptions and even more so to try and pass them off as science.

The bottom line here is that the Stern Review should receive an incredible amount of scrutiny based on the bold claims it makes and the rather dubious "evidence" upon which it relies. I have not read the entire 700 page report, but in my brief review I was able to pick out several suspicious assertions and one blatant falsehood. What will happen when a real scientist delves into this meaty analytical offering? I expect it fall apart like the meat from a rack of Memphis ribs.

British report the last hurrah of warmaholics

The Stern warning could join Paul Ehrlich's The Population Bomb and the Club of Rome's Limits to Growth in the pantheon of big banana scares that proved to be unfounded

By Bob Carter

The Australian, November 03, 2006

NICHOLAS Stern is a distinguished economist. Climate change is a complex, uncertain and contentious scientific issue. Have you spotted the problem with the Stern review yet?

An accomplished cost-benefit analysis of climate change would require two things: a clear, quantitative understanding of the natural climate system and a dispassionate, accurate consideration of all the costs and benefits of warming as well as cooling.

Unfortunately, the Stern review is not a cost-benefit but a risk analysis, and of warming only.

This adroit shuffle of the pea under the thimble perhaps explains why Stern's flawed and partial account of our possible climate future stresses costs, ignores benefits, and fails to consider the all too likely eventuality of future cooling.

Even more unfortunate for Stern than his restricted brief is that there is no established theory of climate. Stern therefore has to rely on the advice of others in providing the summary of climate science that occupies the first 21 pages of his review. Though he cites a range of scientific literature, his summary strongly reflects the unsatisfactory consensus view of the UN's Intergovernmental Panel on Climate Change.

The advice to policy-makers that governments periodically receive from the IPCC contains political rather than scientific advice. In concert with this, over the past 10 years the IPCC has moved from being primarily a reviewer of the science evidence to being an advocate for the alarmist case for global warming.

Perhaps the most important scientific point made in the Stern review is the statement that "the accuracy of climate predictions is limited by computer power".

Nonetheless, the review's risk analysis assumes that the computer models used are able to predict the future path of global climate for policy purposes. They cannot.

Worse, even if the models did have global predictive skill, that would only be a tiny first step towards policy advice, because the global average temperature or sea-level rise that the models calculate are conceptual statistics, not physical realities.

Estimating accurate costs and benefits for future environmental change requires not just knowledge of changing global averages but accurate, site-specific predictions for all parts of the planet.

For example, from 1965 to 1998, measured sea level rose slightly in Townsville and fell slightly in Cairns. Presuming that these trends continue, there is obviously the need for different coastal management plans for the two regions. Now repeat that thought exercise for future changes in temperature, precipitation and sea level worldwide. To make actual and accurate predictions for this is, of course, impossible.

Stern has surely accepted his IPCC-centric science advice in good faith, yet that turns out to be his fatal mistake. Because there is copious evidence that the advice is untrustworthy. For instance, participants at a recent international climate conference in Stockholm were told that the hockey-stick depiction of temperature over the last 1000 years, an IPCC favourite, has been discredited; that pre-industrial atmospheric carbon dioxide levels were higher, and fluctuated more, than is indicated by the averaged ice core measurements; that global temperature has not increased since 1998, despite continuing increases in carbon dioxide; that the Arctic region is no warmer now than it was in the 1930s; and that climate models are too uncertain to be used as predictive policy tools.

These considerations undercut the core IPCC arguments for dangerous human-caused warming, as contained in its 2001 assessment report. Yet early drafts of the forthcoming fourth assessment report reveal that IPCC thinking does not consider these deep uncertainties, and neither does Stern.

The opinion of Bjorn Lomborg, writing in yesterday's Wall Street Journal, suggests that it is not just Stern's science that is flawed. Lomborg accuses Stern of cherry-picking statistics to fit the argument, such as massaging future warming cost estimates from the generally accepted 0 per cent of gross domestic product now to 3 per cent in 2100 to figures as high as "20 per cent now and forever".

It seems that the economics of the Stern review is as shaky as the science, given that Lomborg concludes that "its fear-mongering arguments have been sensationalised, which is ultimately only likely to make the world worse off".

The Stern review has been presented as a rigorous treatment of climate change and its economic effects. In reality, however, the review is a political document whose relation to the truth is about the same as that of the notorious British report on Iraq's weapons of mass destruction.

The Stern agenda in Britain is to enable Labour to compete for eco-votes with an increasingly green-oriented Tory party. A wider agenda is the imposition of carbon levies for goods and services provided from outside Europe, thereby penalising more efficient competitors elsewhere. The European Union has form on this, and has previously tried to use DDT and genetic engineering of food as bogies to justify trade barriers.

Among a range of possible carbon morality taxes, Stern considers the application of a food-miles levy on produce subjected to lengthy air transport. Subsequent media coverage has concentrated on earlier estimates that flying 1kg of kiwifruit from New Zealand to Europe generates 5kg of carbon dioxide. With delicious irony, it turns out that virtually all NZ kiwifruit are transported by ship, yet arrive in Britain at a price that undercuts local supplies. No wonder a levy is needed.

Australian grape growers are doubtless already resigned to having an extra "noble carbon" levy imposed on their products, to the advantage of their French competitors. For that matter, why not a ballet miles surcharge on tickets at Covent Garden when the Australian Ballet next visits London? And given that most British dildos probably come from overseas, perhaps UK citizens will soon have dildo miles, too.

The Stern review is not about climate change but about economic, technological and trade advantage. Its perpetrators seek power through climate scaremongering. The review's release was carefully timed to closely precede this month's US congressional elections and the Nairobi climate conference. Beyond these events, we can expect another burst of alarmist hallelujahs to accompany the launch of IPCC's assessment report in February.

Though it will be lionised for a while yet, the Stern review is destined to join Paul Ehrlich's *The Population Bomb* and think tank the Club of Rome's manifesto, *Limits to Growth*, in the pantheon of big banana scares that proved to be unfounded. It is part of the last hurrah for those warmaholics who inhabit a world of virtual climate reality that exists only inside flawed computer models.

Meanwhile, the empirical data stressed by climate rationalists will ultimately prevail over the predictions of the unvalidated computer models. Perhaps then we will be able to attend to the real climate policy problem, which is to prepare response plans for extreme weather events, and for climate warmings as well as coolings, in the same way we prepare to cope with all other natural hazards.

Bob Carter is a geologist and founding member of the Australian Environment Foundation.

It's the cause of climate change that's in question

<http://www.theage.com.au/news/opinion/its-the-cause-of-climate-change-thats-in-question/2006/11/01/1162339915604.html>

Melbourne daily newspaper *The Age*
November 2, 2006

There are natural temperature fluctuations that affect climate, writes William Kininmonth.

THE Stern report claims there is only a narrow window of opportunity within which the world must act to prevent dangerous climate change. A primary finding is that research since the 2001 report of the Intergovernmental Panel on Climate Change shows the climate to be more sensitive to carbon dioxide emissions than thought, thus requiring immediate and drastic action.

Quite properly, Stern recognises that the scientific evidence of human influence on climate is an essential starting point for the economics. It is the science that establishes whether there is a problem, its risk and scale.

However, it is in the science discussion that Stern is ignorant of the complexity of climate. The claim that there is no plausible explanation, other than human activities, for the observed warming of the past 30 years is wrong. The report gives no credence to internal variability of the climate system as the ocean and atmosphere fluids interact to transport heat from the tropics to the poles. Nor does it recognise the cyclic centennial to millennial oscillations in the climate record for which there are as yet no agreed explanations. The emergence of Earth from Ice Age conditions 20,000 years ago, when vast ice sheets covering North America and Northern Europe receded, sea level rose 130 metres, and the biosphere expanded and flourished in the warmer, wetter world, is ignored.

Unlike the IPCC, the Stern report does recognise the fading influence of carbon dioxide as concentration increases. Most of the greenhouse effect of carbon dioxide is in the first 50 parts per million (ppm). Beyond this the rate of increase of the greenhouse effect rapidly decreases with increasing concentration. There is no argument with Stern's basic finding that the direct increase in the greenhouse effect from a doubling of carbon dioxide is to increase the Earth's surface temperature by about 1 degree.

The argument is with Stern's further claim that there are positive feedbacks in the climate system that acts to amplify the direct warming. The latter is at the heart of the alarmist predictions. Stern's simple explanation is that a warmer atmosphere holds more water vapour, also a greenhouse gas, and it is the extra water vapour that amplifies the direct warming effect.

Thus, the direct warming of about 1 degree is projected to become between 1.4 and 5.8 degrees for a doubling of carbon dioxide concentration. The range of projected global warming arises because the amplification can only be estimated using computer models. Stern says that the climate models use the laws of nature and are thus vastly different from those used in economic analyses, "which rely predominantly on curve fitting". The statement that the "accuracy of climate predictions is limited by computer power" is stunning in its ignorance as even the IPCC highlights a range of scientific uncertainties.

Stern fails to identify the important role of evaporation in cooling Earth's surface. As surface temperature rises, evaporation increases at a near exponential rate. This extraction of heat is a strong damping factor to further temperature rise.

There will be no runaway greenhouse effect because the fading influence of carbon dioxide and rapid increase of evaporation combine to restrict temperature rise.

Warming from carbon dioxide increase is relatively small in the context of natural climate variability. It follows that a cut in human-caused carbon dioxide emissions will have little impact on the future climate.

William Kininmonth was head of the National Climate Centre and is author of Climate Change: A Natural Hazard.

Lord Lawson on Stern Report (Speech Excerpt)

THE ECONOMICS AND POLITICS OF CLIMATE CHANGE: AN APPEAL TO REASON

Lord Nigel Lawson

A Lecture to the Centre for Policy Studies

<http://www.cps.org.uk/latestlectures/>

But first, a very brief comment on Stern. If scaremongering seems a trifle harsh, I should point out that, as a good civil servant, he was simply doing his masters' bidding. As Mr Blair's guru, Lord Giddens (the inventor of the so-called third way), laid down in this context in a speech last year, "In order to manage risk, you must scare people".

In fact, the voluminous Stern Report adds disappointingly little to what was already the conventional wisdom - apart from a battery of essentially spurious statistics based on theoretical models and conjectural worst cases. This is clearly no basis for policy decisions which could have the most profound adverse effect on people's lives, and at a cost which Stern almost certainly underestimates. It is, in a very real sense, the story of the Iraq war, writ large.

THE STERN REVIEW OF THE ECONOMICS OF CLIMATE CHANGE: A COMMENT

Richard S.J. Tol

Economic and Social Research Institute

Hamburg, Vrije and Carnegie Mellon Universities

October 30, 2006

Introduction

The Stern Review of the Economics of Climate Change (Stern *et al.*, 2006) is a report to the Prime Minister and the Chancellor of the Exchequer of the United Kingdom. A team of 23 people, led by Sir Nicholas Stern and supported by many consultants, worked for a little over a year to produce a report of some 700 pages on the economics of climate change. The report says many things, some better supported than others. In this comment, I focus on two conclusions. Firstly, the Stern Review argues that "the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP¹ each year, now and forever." These are "risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century". Secondly, the Stern Review argues that "the benefits of strong early action outweigh the costs". This action would keep concentrations of greenhouse gases below 550 ppm CO₂ equivalent.

Intriguingly, the 550 ppm CO_{2eq} target coincides with climate change target adopted earlier by the UK government (RCEP, 2000). The Stern Review should therefore not

¹ On page 163, 5% of GDP is in fact the mean for one particular scenario. The five-percentile may be as low as 0.3% of GDP. The 95%ile may be as high as 33%.

be understood as a revision. Earlier, HM Treasury had released a report (Clarkson and Deyes, 2002) that justified the 550 ppm CO_{2eq} target. The earlier report has been criticized for being out of step with the peer-reviewed literature (Pearce, 2003; Tol, 2005). For anyone familiar with the literature on the economic impacts of climate change (Smith *et al.*, 2001) or the literature on cost-benefit analysis on climate change (Nordhaus, 1991), the headline conclusions of the Stern Review come as a surprise too: The Stern Review estimates are well outside the usual range. The Select Committee for Economic Affairs of the House of Lords (2005) had warned the UK government for being out of step with the economic literature on climate change. The Stern Review missed an opportunity to help align UK climate policy to this literature.

In this commentary, I review the impact estimates in the Stern Review and assess the cost-benefit analysis in that report before reaching a conclusion.

Economic impacts of climate change

Let us first examine the Stern Review conclusion that climate change will cause economic disruption now and forever. The “now and forever” is preposterous.² The world economy is growing briskly; immediate threats to economic growth are imbalances in the US, overheating in China, and lack of reform in the EU. But the “forever” part is also problematic. It assumes that society will never get used to higher temperatures, changed rainfall patterns, or higher sea levels. This is a rather dim view of human ingenuity. It contradicts what we know about technological progress, adaptation, and evolution.

The Stern Review highlights several impacts of climate change. One is water. The work here is based on Arnell (2004). The Stern Review correctly that Arnell (2004) does “not include adaptation” and is therefore severely biased. Food is another highlighted impact. Climate change would hamper agricultural productivity in some parts of the world, particularly Africa. This would be a problem in today’s world. However, in all of the socio-economic scenarios used by the Stern Review, African economies would grow rapidly. This is inconsistent with famine. Middle-income countries would import food (global food production is not threatened by climate change) rather than starve. Furthermore, it is hard to imagine rapid economic growth without substantial improvements in agriculture productivity; at present, African agriculture is particularly inefficient. For health, the Stern Review makes the same mistake: It worries about people dieing of diarrhea and malaria, diseases that can be controlled at little expense. The Stern Review extrapolates the increase of damage due to weather-related natural disasters. It uses the estimates of Muir-Wood *et al.* (2006), ignoring the opposite (and peer-reviewed) conclusions by Pielke *et al.* (2005) and Pielke (2005).³ For water, agriculture, health and insurance, the Stern Review consistently selects the most pessimistic study in the literature. For refugees, the Myers and Kent (1995) are the highest, and the Stern Review duly highlight that “some estimates suggest that 150-200 million people may become permanently displaced”. Myers and Kent (1995) was not peer-reviewed.⁴ Norman Myers is a known alarmist. For sea level rise, the Stern Review only quotes the “millions at risk”

² It is clear from page 162 that this is in fact an annuity. Note that the used discount rate is particularly low, and at odds with the discount rate recommended by HM Treasury (2003). See Guo *et al.* (2006) for a discussion of discount rates and marginal damage costs of CO₂ emissions.

³ It is surprising that the Stern Review overlooked Pielke’s work, as it was presented at the same meeting as Muir-Wood’s work.

⁴ The current author was on the advisory board of the project that led to the Myers and Kent report. The board was very critical of its findings.

from Nicholls and Tol (2005) – this metric ignores adaptation, which is very effective against sea level rise –note that Nicholls and Tol (2005) do report impact measures with adaptation too.

In the chapter on the impact of climate change on development, the Stern Review quotes the works of Nordhaus (2006) and Sachs (2001) – who find that a tropical climate negatively affects economic development. The Stern Review ignores the work of Acemoglu et al. (2001) and Easterly and Levine (2003), who argue that climate has at most a minor, indirect effect in the (distant) past – and the climate-change-specific studies of Fankhauser and Tol (2005) and Tol (forthcoming), who show that climate change will have a limited effect on development. In their poverty projections, the Stern Review mistakes the income-loss-equivalent-welfare-losses of the PAGE2002 with actual income losses.⁵

The economic impact estimates of the Stern Review are in fact all based on a single integrated assessment model, PAGE2002 by Hope (2006). Although a single model makes for easy presentation, it also implies a lack of robustness. Integrated assessment models differ considerably in their representation of impacts (cf. Tol and Fankhauser, 1998). The PAGE2002 model stands out for two reasons. First, the model assumes that climate change impacts are necessarily negative (cf. Mendelsohn *et al.*, 2000). Second, the model assumes that vulnerability to climate change is independent of development (Yohe and Tol, 2002). Both assumptions are at odds with the state of the art –and both assumptions imply that the impact estimates are overly pessimistic.

Cost-benefit analysis and emission reduction targets

The Stern Review overestimates the impacts of climate change, and therefore the benefits of emission reduction. Its estimates of the costs of emission reduction are largely inspired by the Innovation Modeling Comparison Project (Edenhofer *et al.*, 2006; Grubb *et al.*, 2006; Koehler *et al.*, 2006), a group of models that make overly optimistic assumptions on technological progress and the costs of emission abatement (see Weyant, 2004, and van Vuuren *et al.*, 2006, for more mainstream estimates). High benefits and low costs together imply that the Stern Review recommends more stringent emission reduction than the standard cost-benefit analysis (Azar and Lindgren, 2003; Keller *et al.*, 2004, 2005; Maddison, 1995; Manne *et al.*, 1995; Nordhaus, 1991, 1993, 1994; Nordhaus and Boyer, 2000; Nordhaus and Yang, 1996; Peck and Teisberg, 1992, 1994; Tol, 1997, 1999, 2001, 2002).

The Stern Review does not, in fact, present a formal cost-benefit analysis. Instead, it compares the magnitudes of the costs of abatement (around 1% of GDP) to the costs of climate change (5-20% of GDP) and concludes that the latter justifies the former. There are two mistakes here. Firstly, the costs of climate change do not equal the benefits of emission reduction – any abatement will only slow climate change rather than avoid it altogether – therefore, the benefits of emission reduction are smaller than the costs of climate change (Tol and Yohe, 2006). Secondly, marginal costs should be compared to marginal benefits, rather than total costs to total benefits.⁶ The Stern Review is silent on marginal abatement costs. It does report marginal damage costs though. For instance, it says “the mean value of the

⁵ This is a puzzling mistake to make. Sir Nicholas used to be the chief economist at the World Bank. Mistakes like this are usually corrected when one studies for a Master’s degree in economics.

⁶ This can be found in any textbook on cost-benefit analysis, and in many a textbook on economics. It is puzzling that economists of HM Treasury can make such basic mistakes.

estimates in the study by Tol [2005] was about \$29/tCO₂" but omits that Tol (2005) concludes that "it is unlikely that the marginal damage costs of carbon dioxide emissions exceed \$50/tC [\$14/tCO₂] and are likely to be substantially smaller than that." The Stern Review does report that "the current social cost of carbon [...] might be around \$85/tCO₂", but it does not provide any more detail – except that this number is preliminary and results from PAGE2002 (Hope, 2006). \$85/tCO₂ equals \$314/tC, and is therefore an outlier in the marginal damage cost literature (Tol, 2005).

Conclusion

In sum, the Stern Review is very selective in the studies it quotes on the impacts of climate change. The selection bias is not random, but emphasizes the most pessimistic studies. The discount rate used is lower than the official recommendations by HM Treasury. Results are occasionally misinterpreted. The report claims that a cost-benefit analysis was done, but none was carried out. The Stern Review can therefore be dismissed as alarmist and incompetent.

This is not to say that climate change is not a problem, nor that greenhouse gas emissions should not be reduced. There are sound arguments for emission reduction. However, unsound analyses like the Stern Review only provide fodder for those skeptical of climate change and climate policy.

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Stern: the ecology equivalent of a Blairite dodgy dossier

<http://www.thebusinessonline.com/Document.aspx?id=DCCB406A-C15C-4F53-91FB-2F666535DFCD>

The Business, London

Economists use a decimal point to prove they have a sense of humour. But Sir Nicholas Stern's report warning that global warming will cost £3.68 trillion if left untreated shows that economists can also be taken too seriously. His portentous study, *The Economics of Climate Change*, prepared for the British government, was treated as if it had been carried down from Mount Sinai rather than put together by an ordinary British mandarin. The fawning media classes, which now regard environmentalism as the new religion, immediately took it as gospel (to do otherwise is the new heresy).

The Tories and the Liberal Democrats, which have both suspended their critical faculties on the matter, rushed to clamber aboard the bandwagon. Even airlines and oil companies, these new paens of political correctness, welcomed its arrival. But consensus is always dangerous – and this one comes loaded with particular menace. As a compendium of alarmist studies on global warming, the Stern report has no rival. Few outlandish claims have not been included in his 570-page tome, making it a useful guide to current eco-nuttery. Naturally, it paints the now-familiar vision of apocalypse; malaria doubling; Bangladeshis drowning; Europeans expiring in summer heatwaves and hurricanes ripping apart America.

Stern's novelty was to produce two figures: that global warming would eventually reduce the size of the world economy by 10% if left to fester; but that curbing emissions at his recommended level would cost only 1% of global wealth. Between those two suspiciously certain figures lies a world of conjecture, supposition and stabs in the dark. Stern is the ecological equivalent of a dodgy intelligence dossier revealing weapons of mass destruction which don't exist – which makes it a typical Blairite production. Doubts have been hardened into certainties, contradictory facts downplayed or omitted. The result is a tax-raising manifesto which could see Great Britain – which generates just 2% of world carbon emissions – sleepwalk into a growth-destroying agenda which will hit the poorest hardest.

With a few dubious assumptions Stern has been able to claim, preposterously, that global warming would be an economic shock equivalent to the World War Two or the Great Depression. The range, he says, is between 5% and 20% of global output. Perhaps the most crucial questionable assumption in the report is that Stern has used an artificially low discount rate to assess whether or not it makes sense to spend money today to reap a hypothetical payoff in the form of reduced losses from

global warming in many decades time. But a fundamental principle of economics is that a pound to be pocketed tomorrow is worth less than a pound in the pocket today (because the money could be put in the bank and hence its expenditure entails an opportunity cost); the real question that matters is by how much tomorrow's pound should be discounted to reflect this time value of money.

Stern's answer is not by much – which rigs the outcome in favour of massive spending today. In assessing the impact of very long-term phenomena such as climate-change, use of any reasonably high discount rate (say 5-6%) renders the present value of damage, which occurs in the very long-term, of relatively small importance now. Therefore it makes no economic sense to take expensive preventative action today – and that includes Stern's ill-conceived proposals. Several smaller tricks are deployed along the way. He refers, for example, to a study suggesting the losses from extreme weather are growing at 2% a year and forecasts such damage "could reach 0.5% to 1% of world GDP [gross domestic product] by the middle of the century".

But dig out the original study and you discover from its author that "it is not possible to determine the portion of the increase in damages that might be attributed to climate change due to greenhouse gasses". This crucial caveat features nowhere in the Stern review. Such assumptions were built into the 2001 Intergovernmental Panel on Climate Change (IPCC), a United Nations body set up by the world's environment departments which produced the now-famous estimate that, without concerted action, the planet would warm by between 1.4 degrees and 5.8 degrees Centigrade by 2100. Its predictions were, as a member of its modelling group admitted, "computer-aided storytelling". It is a story taken as fact by Stern.

The IPCC assumes the world will see economic growth averaging between 2.2% to 3% over the next century, something which Nigel Lawson, former British Chancellor and a leading climate change realist, describes as a "fairly heroic" rate of growth. When he was a member of the House of Lords investigation into this last year, Paul Johnson, a British Treasury official, said the top end forecast would be "certainly extremely unprecedented". Yet the Treasury's doubts have mutated into certainty. The Stern team found this 3% global growth target "not unreasonable". Thus both the IPCC and the Stern team ask us to imagine a developing world which will in 2100 be richer than America today. The report also warns breathlessly that "the homes of tens of millions are likely to be affected by flooding" and that 35m Bangladeshis live in areas that will eventually be below sea level.

But if its projections are to be believed, Bangladesh will be as rich as The Netherlands by 2100. The Dutch have spent five centuries coping with a country half below sea level. The province of Flevoland was uninhabitable until the 1960s; now it is home to 370,000. Schiphol Airport sits on what used to be a Haarlemmermeerpolder lake. The Dutch are living proof of a formula which does not feature in Stern's econometrics: wealth + technology = flood defences and reclaimed land.

It is on the issue of sea level rises that Stern sits on the environmental extreme. Figure 3.11 of the Stern review looks at scenarios for a five metre rise (which he costs at \$2 trillion) and even 10 metres.

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levels factored in, the overall Stern price tag for global warming would not be so high. It is areas like these where his report is at its most alarmist. Woeful attention is paid to the beneficial effects of climate change. The Stern report argues that 35,000 died across the continent in the European heatwave of 2003 and warns that such events "will be commonplace by the middle of the next century". This figure is put into perspective by news last week that 25,700 died from the cold last winter in Britain alone. This is a regular occurrence now in Britain; the toll is set to be much worse this coming winter with heating bills 25% higher. Milder winters could save thousands of elderly lives in Britain – a point made nowhere by Stern.

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It is a huge missing piece to his jigsaw, reminiscent of the Kyoto Protocol which buried the fact that, even if everybody had signed up to it and met their targets, the effect would be to delay global warming by just six years over a century (the temperature in 2100 would have arrived in 2106 instead).

In any case, reducing future emissions to 550ppm (we're at 430ppm now) would likely cost much more than 1% of global GDP by 2050, which he gives as his maximum limit.

As The Business reveals today, a draft of an IPCC report due next year calculates this target at between 1% and 5% of GDP – up to five times more than Stern claims. So the target which seemed so cheap at first would either be ignored (as the Kyoto Protocol has by so many of its signatories) or pursued by deeper and more painful tax rises. But it is India and China who are driving the greenhouse gas increases and not always for bad reasons: both countries are combating poverty at a faster rate than ever before in human history. As clothes replace rags and houses replace huts, people start to live proper lives – and pollute.

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A key passage in the report is at the top of page 292 when it refers to the PAGE2002 economic model used to produce the headline-grabbing economic cost figures. The computer model, it says, "should be taken as only indicative of the quantitative impacts". Its results "leave out much that is important". In other words: no one knows, and the best we can do is guess. It is an honest caveat which should have appeared at the top of the document, not buried in its text. As Nigel Lawson put it in his speech to the Centre for Policy Studies in London on Wednesday: "The relatively new and highly complex science of climatology is an uncertain one; neither scientists nor politicians serve either the truth or the people by pretending to know more than they do". Uncertainty is the hallmark of climate change science: even now, it still rests on computer models that give confusing and conflicting results. The certainty

which the political and media elite crave simply does not exist; Stern has not provided it with this report and they delude themselves if they think it has.

Economists use a decimal point to prove they have a sense of humour. But Sir Nicholas Stern's report warning that global warming will cost £3.68 trillion if left untreated shows that economists can also be taken too seriously. His portentous study, *The Economics of Climate Change*, prepared for the British government, was treated as if it had been carried down from Mount Sinai rather than put together by an ordinary British mandarin. The fawning media classes, which now regard environmentalism as the new religion, immediately took it as gospel (to do otherwise is the new heresy).

The Tories and the Liberal Democrats, which have both suspended their critical faculties on the matter, rushed to clamber aboard the bandwagon. Even airlines and oil companies, these new paens of political correctness, welcomed its arrival. But consensus is always dangerous – and this one comes loaded with particular menace. As a compendium of alarmist studies on global warming, the Stern report has no rival. Few outlandish claims have not been included in his 570-page tome, making it a useful guide to current eco-nuttery. Naturally, it paints the now-familiar vision of apocalypse; malaria doubling; Bangladeshis drowning; Europeans expiring in summer heatwaves and hurricanes ripping apart America.

Stern's novelty was to produce two figures: that global warming would eventually reduce the size of the world economy by 10% if left to fester; but that curbing emissions at his recommended level would cost only 1% of global wealth. Between those two suspiciously certain figures lies a world of conjecture, supposition and stabs in the dark. Stern is the ecological equivalent of a dodgy intelligence dossier revealing weapons of mass destruction which don't exist – which makes it a typical Blairite production. Doubts have been hardened into certainties, contradictory facts downplayed or omitted. The result is a tax-raising manifesto which could see Great Britain – which generates just 2% of world carbon emissions – sleepwalk into a growth-destroying agenda which will hit the poorest hardest.

With a few dubious assumptions Stern has been able to claim, preposterously, that global warming would be an economic shock equivalent to the World War Two or the Great Depression. The range, he says, is between 5% and 20% of global output. Perhaps the most crucial questionable assumption in the report is that Stern has used an artificially low discount rate to assess whether or not it makes sense to spend money today to reap a hypothetical payoff in the form of reduced losses from global warming in many decades time. But a fundamental principle of economics is that a pound to be pocketed tomorrow is worth less than a pound in the pocket today (because the money could be put in the bank and hence its expenditure entails an opportunity cost); the real question that matters is by how much tomorrow's pound should be discounted to reflect this time value of money.

Stern's answer is not by much – which rigs the outcome in favour of massive spending today. In assessing the impact of very long-term phenomena such as climate-change, use of any reasonably high discount rate (say 5-6%) renders the present value of damage, which occurs in the very long-term, of relatively small importance now. Therefore it makes no economic sense to take expensive preventative action today – and that includes Stern's ill-conceived proposals. Several smaller tricks are deployed along the way. He refers, for example, to a study suggesting the losses from extreme weather are growing at 2% a year and forecasts

such damage "could reach 0.5% to 1% of world GDP [gross domestic product] by the middle of the century".

But dig out the original study and you discover from its author that "it is not possible to determine the portion of the increase in damages that might be attributed to climate change due to greenhouse gasses". This crucial caveat features nowhere in the Stern review. Such assumptions were built into the 2001 Intergovernmental Panel on Climate Change (IPCC), a United Nations body set up by the world's environment departments which produced the now-famous estimate that, without concerted action, the planet would warm by between 1.4 degrees and 5.8 degrees Centigrade by 2100. Its predictions were, as a member of its modelling group admitted, "computer-aided storytelling". It is a story taken as fact by Stern.

The IPCC assumes the world will see economic growth averaging between 2.2% to 3% over the next century, something which Nigel Lawson, former British Chancellor and a leading climate change realist, describes as a "fairly heroic" rate of growth. When he was a member of the House of Lords investigation into this last year, Paul Johnson, a British Treasury official, said the top end forecast would be "certainly extremely unprecedented". Yet the Treasury's doubts have mutated into certainty. The Stern team found this 3% global growth target "not unreasonable". Thus both the IPCC and the Stern team ask us to imagine a developing world which will in 2100 be richer than America today. The report also warns breathlessly that "the homes of tens of millions are likely to be affected by flooding" and that 35m Bangladeshis live in areas that will eventually be below sea level.

But if its projections are to be believed, Bangladesh will be as rich as The Netherlands by 2100. The Dutch have spent five centuries coping with a country half below sea level. The province of Flevoland was uninhabitable until the 1960s; now it is home to 370,000. Schiphol Airport sits on what used to be a Haarlemmermeerpolder lake. The Dutch are living proof of a formula which does not feature in Stern's econometrics: wealth + technology = flood defences and reclaimed land.

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The clean green dream

<http://www.theaustralian.news.com.au/story/0,20867,20696551-30417,00.html>

by Matthew Warren

Careful reading of the Stern report into global warming reveals flaws and errors, reports Environment writer Matthew Warren

WHAT a difference a few days makes. Within a week, the debate on climate change in Australia has moved from the science faculty to the school of economics; from how hot it may get to how much it may cost us. The sudden march across campus has been triggered by a highly political report on the economic costs of climate change commissioned by the Blair Government, leaked across the British media like Hollywood gossip and carefully cast as a watertight case for immediate global action on climate change.

On Tuesday, the 700-page Stern review of the costs of climate change was heralded as a landmark report, the first ambitious but sobering forecast of global suffering greater than two world wars and one Depression if nothing is done to cut emissions.



Trumpeted as the first cost-benefit analysis of the economic effects of climate change, Nicholas Stern's report assured us that the cost of doing nothing was five to 20 times greater than the costs of co-ordinated global and early action to cut emissions.

Environmentalists punched the sky in vindication. Business nodded sagely in agreement but highlighted Stern's repeated emphasis on a truly global approach.

The Howard Government, wheeling around on climate change policy with all the speed and grace of a bullock dray, flagged a new Kyoto international agreement. Opposition Leader Kim Beazley said Stern meant we should sign the Kyoto protocol now. Like a crazy poker machine, Stern seemed to be paying out to just about anyone who pulled the lever.

It's no coincidence the report's release came on the eve of the world's next big UN climate change conference in Nairobi, crafted to galvanise broad support for action on climate change.

But while reputation and good media management can get you so far, the trouble with technical reports, no matter how big they are, is that eventually someone smart reads them.

Leading Australian economist and Reserve Bank board member Warwick McKibbin emerged after a few hours alone with the report with a worried look on his face. "There are big errors in the Stern report and I'm worried that it's going to be deemed to be far too extreme," he said.

McKibbin's worries are many. He says Stern uses only worst-case scenarios for climate change; the methodology is faulty, with the effects measured on a single, simple model that is simply inadequate to incorporate complex interrelationships

spanning decades. He fears that by seriously overstating the potential consequences of climate change, the Stern report risks undermining rather than progressing debate on climate change, all but inviting critics of climate change science to use this much vaunted and publicised report as yet another example of agenda driven analysis.

Respected European economist Richard Tol was less polite. "The Stern review can (therefore) be dismissed as alarmist and incompetent," he wrote in a stinging paper this week. Tol also accuses Stern of selectively emphasising the most pessimistic studies on the effects of climate change, of misinterpreting results, of claiming a cost-benefit analysis was carried out, when it was not.

Tol is not a climate change sceptic but, like McKibbin, he has expressed concern the Stern report's desire to force progress on climate change risks being counterproductive. "This is not to say that climate change is not a problem, nor that greenhouse gas emissions should not be reduced. There are sound arguments for emission reduction. However, unsound analyses like the Stern review only provide fodder for those sceptical of climate change and climate policy," he writes.

Expect more critiques to follow in coming weeks. Even if Stern has overplayed his hand somewhat, the essential thesis still holds. That is, the risk of relatively serious effects of a warming globe is sufficient to warrant a relatively urgent and co-ordinated global reduction in greenhouse gas emissions. The debate about the cost of climate change and the policy framework to deliver it is the latest and possibly hardest question posed so far. Debate about the science has been rolling along for more than two decades, gradually edging towards a relatively overwhelming consensus, although still with a few respectable critics.

More recent focus on low emission technologies has uncovered philosophical divides in the case of nuclear energy and highlights a suite of new technologies available about 2030 - from the romantic favourites solar and wind to more practical solutions such as storing emissions underground. But these cost more than existing energy supply.

Switching to more expensive energy is certain to be painful. Finding the least painful way to make the switch while managing to avoid driving billions of dollars of future investment offshore may prove to be the biggest challenge of all.

Broadly, in Australia there are four options on the table. First for populism but last for actually doing anything is the Kyoto Protocol. To most bewildered Australians increasingly concerned about the issue but disconnected from the dense science and even denser economics, signing Kyoto stands strong in the polling as a symbol, if nothing else, of Australia doing something.

Because it remains such a lightning rod, the Howard Government and Labor are almost fighting over the right to use it in their rhetoric. "I will ratify the Kyoto Protocol," Beazley declared on Thursday. Howard offered to go one better: a "new Kyoto" using the Australia Pacific Forum as its foundation.

"There's no point in even debating it," McKibbin says. "Kyoto is already dead. It's not working anywhere. We need to move on."

The Kyoto Protocol assigns signatories with mandatory reduction targets for greenhouse gas emissions between 2008 and 2012. Failure to achieve these targets means you are set another 30 per cent as punishment, which appears unlikely if the country fails to make the grade in the first place.

This appears likely to be the case almost universally. Recent emissions benchmarks released by the UN shows that, aside from the former Eastern bloc countries in Europe, almost no signatory nation appears likely to meet its Kyoto targets.

Economic growth demands increased energy, and with low emission technologies still prohibitively expensive on a large scale, the targets invariably fail.

The European Union started work on an emissions trading scheme in 2000 that notionally came into force last year but is still struggling to make a meaningful impact, particularly in the faster growing member states such as Greece, Portugal and Spain. Canada, with an economic profile similar to that of Australia, has blown its targets out of the water with a net increase in emissions of 62 per cent. Its target was a 6 per cent cut.

"It's a classic example where political will on its own is just not enough," McKibbin says. "Kyoto wasn't a complete waste of time. It did waste some time because we could have worked on a better alternative instead, but it did set up a lot of things that demonstrated quite clearly how powerful market signals can be."

Also on the table is the state-based emissions trading scheme launched in August. Built on the EU model but careful to avoid its biggest mistakes, the scheme was politically motivated to create the theatre of activity by the states while knowing that Queensland and Western Australia would never commit.

The scheme proposes some innovative ideas, including giving permits to those industries at risk of relocating overseas, but relies on constant government intervention to determine who gets free permits, which makes industry more than a little uneasy. As Australian Industry Greenhouse Network chief John Daley describes it, "governments have a propensity to change the rules".

"A carbon price now of any significance is self-flagellation," Daley says. "If you have a carbon price post 2015, then hopefully some of these technologies will be there."

Stern stresses the need for a global agreement to reduce emissions because of the rapid pace of development in poor countries and their use of cheap and reliable coal fired power to get there.

Greenhouse gas emissions from the developing world are tipped to pass the developed world by about 2020.

China is not just thinking about building 600 coal-fired power stations. It's building them. The International Energy Agency predicts fossil fuels will account for about 90 per cent of growth in world energy demand until 2030.

Next week's meeting of the UN Framework Convention on Climate Change will be significant as a measure of whether the acceleration of the policy debate on climate

change can indeed change into action or whether it will persist with its focus on Kyoto as the favoured international framework.

McKibbin has been working on a fourth hybrid model that he hopes can avoid all the problems evident in other schemes. By establishing an international agreement where member states sell eternal permits to emit greenhouse gases to the private sector, he hopes this will harness the will of capitalism to fix the problem it made in the first place. By investing and owning these valuable permits, he figures companies will want to ensure the schemes are properly regulated and will further profit from an investing in low emissions technologies. "It's not perfect, but it is an idea," he says.

Stern's greenwash

http://thebewilderness.typepad.com/my_weblog/2006/10/sterns_greenwas.html

The Bewilderness

The [Stern report](#) on climate change is being published and has been seized upon by the government to continue its alarmist campaign for government expansion. Stern lists the usual disasters and argues that humanity must take action now to avoid impoverishment, although it was commissioned for an international audience. In Britain, the main impact is taxation, with the media concentrating on new charges and levies.

As the electorate are already sceptical about further tax increases, the self-appointed prophets are latching onto the paradigm of climate change to justify their onerous theft. Taxes on cars, aviation and other carbon generating activities will weigh more heavily upon the poor and lead to lower living standards now rather than the hypothetical poverty projected for the future.

The Letter from David Miliband, the appointment of the political failure Al Gore and the report by Stern are all designed to provide the intellectual ballast for continued government expansion. These taxes are politically unpalatable and would be rejected by the electorate, if levied without green cover. Therefore, climate change and catastrophism are the reasons for a 'greener than thou' ratchet effect, where politicians use Britain and our money to puff themselves up as a moral example for others.

Since the science and the scenarios are still so uncertain, climate change has been adopted as the vanguard for further taxation and a curb on British consumerism. Using the expansion of the state and taxes, rather than market mechanisms, our politicians will dampen our economic growth, steal our wealth, and wrap us in their parasitical hairshirt. The only light in this gloom is that the British electorate may reject such alarmism and the example of our political stupidity will lead India and other nations to seek technological and free-market solutions that do not curb their march away from poverty.

Posted by Philip Chaston on October 30, 2006

Stern's report is based on flawed figures<http://www.ft.com/cms/s/48bf3b58-6ae0-11db-83d9-0000779e2340.html>

By Max Wilkinson

Published: November 3 2006 02:00 | Last updated: November 3 2006 02:00

There are two curious omissions in Sir Nicholas Stern's report on global warming. Both open it to flanking attacks from sceptics. The first is that nowhere in his 575-page tome does he reveal what discount rate he assumes to estimate the present value of future disasters. Second, the word "nuclear" has been omitted from the executive summary, conclusions and the points for action liberally scattered through the report. There is an important connection between these omissions, which suggests why Sir Nicholas was so coy.

The main report contains, it is true, discussion of both issues, including an opaque technical treatment of the economics of discount rates, and general remarks about the relative costs of nuclear power - somewhat shrouded by talk of unsolved difficulties. Why does this matter?

First, the discount rate: the actual figure used by Sir Nicholas seems to have been between 2 and 3 per cent, less than half the rate that the Treasury now uses for assessing large capital projects and much lower than the private sector would expect. This low figure reflects an ethical belief that we should not value the cost of disaster to our grandchildren at less than the costs of the same disaster to ourselves. A zero discount rate, favoured by some economists and campaigners such as Friends of the Earth, would make their distress the same as our distress in economic terms. So there is a huge incentive to spend now to avoid future global warming.

A higher discount rate, predicated on a high economic growth rate and more in line with commercial realities, would discount future costs so that they appear much smaller to today's consumers and taxpayers. It would make the costs of global warming in 100 years' time appear small or even negligible in present-day terms. Such an approach is not necessarily callous or insensitive. As Lord Lawson pointed out in his critique of the Stern report on Wednesday, the growth of the world economy for the rest of this century can be expected to provide a large amount of extra resources for future generations. The present size of the world economy is \$47,000bn (£25,000bn) and the growth rate, projected by the International Monetary Fund to 2007, is 4.1 per cent. If that rate were to continue, the world would be seven times better off in 50 years' time.

Sir Nicholas is entitled to his assumptions. But a very low discount rate, based partly on ethical considerations, creates a big problem. Who is going to pay for the vast projects that his analysis says are needed to keep the world cool? Consider nuclear power as an example. The International Energy Agency will say in a forthcoming report that a big new nuclear programme is needed to help reduce carbon emissions and to secure electricity supplies for the future. But because of the high capital costs and low running costs over decades, the economic viability of the nuclear option is

sensitive to the discount rate assumed. At a 2 per cent rate, a range of international studies including the IEA's show that nuclear is easily competitive with coal.

But what commercial enterprise would undertake the risks at such a low cost of capital? Carbon taxes may help to favour nuclear and other non-polluting power sources, by forcing up the price of electricity, but even so, the private sector will not dilute its discount rate (roughly its required rate of return) by the ethics of global warming.

The implications are disquieting. In the Stern world, big projects to combat global warming, including nuclear, are "cheap" on a 50-year view, but only governments and their economists may think so. Thus projects such as a nuclear programme may have to be heavily subsidised. Yet taxpayers are most unlikely to take the ethical view incorporated into a very low discount rate. This uncomfortable reality was tacitly recognised by Tony Blair, the prime minister, when he insisted recently that nuclear power must be left to the private sector.

So where do we stand? Lord Lawson, supported by distinguished economists such as Sir Ian Byatt and Lord Skidelsky, is right to be cautious about an extremely low discount rate that may shift the burden of adaptation too far from the market mechanisms to political intervention. Government foresight is notoriously poor and the future of the globe highly uncertain. Sensible precautions should be taken, of course, and generous aid will be needed. But a new economic framework based on a vision of Armageddon could turn out to be a big waste of money.

The writer is a former natural resources editor and chief leader writer of the Financial Times

Green taxes are not the solution to a better world

<http://www.telegraph.co.uk/opinion/main.jhtml?xml=/opinion/2006/10/30/dl3001.xml>

Telegraph – UK, 10-30-06

Having exhausted stealth taxes, the Government is reaching for green taxes: levies on flying, driving and household appliances.

The beauty of eco-taxes, from Gordon Brown's point of view, is that people won't want to be seen to be against them.

Those who dispute their efficacy – including this newspaper – will be dismissed as having fallen for tendentious science, or being in the pay of the oil companies, or simply not caring about the viability of the planet.

A few seconds' thought should reveal how asinine these accusations are. Surely we can take it as read that everyone is in favour of life on Earth.

The Daily Telegraph accepts that the planet is getting warmer, and that human activity is probably contributing to this. (Some scientists maintain that the change is due chiefly to the cyclical warming of the sun; but, given the stakes, we ought to err on the side of caution.)

Although global warming might bring some benefits – warmer winters, wetter deserts and faster-growing plants – these are likely to be outweighed by its deleterious consequences, especially in equatorial regions.

Our objection to the Kyoto process has to do with proportionality, not objectives. For a fraction of what we are being asked to spend on compliance, we might eliminate malaria and all other water-borne diseases. In any case, Kyoto is mainly aimed at the industrialised world, when the surge in greenhouse emissions is coming from fast-developing countries such as China and India.

If the United Kingdom were to eliminate its pollutants altogether, it would make almost no difference: Britain accounts for only two per cent of greenhouse gases.

Indeed, it is hard to avoid the suspicion that, for many on the Left, Kyoto is a handy way of advancing an agenda that has little to do with the environment: one that seeks always to blame the West, that is hostile to free trade, and that looks instinctively to state intervention.

The trouble is that governments tend to be inefficient. There is no reason to expect the state to be any better at protecting the environment than it was at making cars or running the Millennium Dome.

It is a pity that all three main parties have bought into the idea that state regulation is the answer. Market mechanisms have proved highly effective at delivering green goals.

Extending property rights to cover air and water quality, and allowing citizens to sue polluters, is a surer way of securing a clean environment than relying on government inspectors.

Privatising rainforests gives owners an immediate stake in their protection. Treating endangered species as the property of those on whose land they roam encourages locals to treat them as a renewable resource.

This is not to say that green taxes are always and everywhere wrong. Where they can deliver an identifiable goal – as when Ireland introduced a small charge on supermarket bags – they have a place. But taxes should be used soberly, judiciously and reluctantly; never as a way of flaunting one's green credentials.

LEAKED UN REPORT SHOWS STERN IS WRONG ON CLIMATE ECONOMICS

The Business, 2 November 2006

<http://www.thebusinessonline.com/Document.aspx?id=83497085-CFCF-4763-AF81-687746BE6F0A>

[CCNet EXTRA - 3 November 2006]

by Fraser Nelson

The British government has vastly underestimated the costs of its green agenda, which could turn out to be up to five times more expensive than ministers are predicting, according to a leaked United Nations (UN) report obtained by The Business.

The action recommended by the British Stern Review - keeping greenhouse gas levels at 550 parts per million - would cost up to 5% of global gross domestic product (GDP), according to the UN. This is in stark contrast with the Stern review, which says it will probably cost only 1%.

This much lower number is used by Stern to make the case for immediate action and steep taxes to cut back on the emission of greenhouse gases. But the UN estimates undermine Stern's economic rationale.

Stern also said the cost of not acting could be 5% to 20% of global GDP. If the Intergovernmental Panel on Climate Change figures are right, they open up the possibility that the British proposals would cost as much as they save, making them redundant.

The new UN figures, exclusive to The Business, come from a draft copy of the 2007 review of the IPCC, which is the acknowledged global authority on climate change science. The Stern review itself was explicitly based on the IPCC's last report, which didn't calculate the cost of stabilising emissions.

Embarrassingly for the British government, the IPCC has done its own sums on restricting greenhouse gas emission to various levels and has found each of the targets far more expensive than the Stern review claimed.

The debate on what to do about global warming has focused on what target to set for greenhouse gas concentrations, now at 430 parts per million (ppm). On current economic trajectory, it is feared they could reach 700ppm by the end of the century. The Stern review directly links global warming scenarios to greenhouse gas concentration levels. At 550ppm, the studies quoted in the review claim the planet is likely to warm by 3°C. Stern considers this to be dangerous, but not catastrophic.

The European Union has set a target of 450ppm but the Stern review said this is unlikely to be achieved because developing economies are growing so quickly. However, the 650ppm limit was shown by Stern as inviting catastrophic climate change.

So the review looks closely at the case for keeping emissions to 550ppm, which it underplays. Stern's executive summary states: "An upper bound for the expected annual cost of emissions consistent with a trajectory leading to stabilisation at 550ppm is likely to be 1% of GDP by 2050."

But the draft copy of the IPCC's Fourth Annual Review, due for publication next year, finds the cost of achieving the same goal to be between "1% and 5% loss of global GDP".

The less-ambitious target of stabilising emissions at 650ppm would cost less than 2% of GDP.

The Stern review team would not comment on the draft report as it has not been published. But The Business understands that the leaks were made available to its scientists at the time of compilation.

Sir Nicholas Stern, a former World Bank economist now working for the British Treasury, has admitted from the offset that his report could only work if it was agreed on a global basis. Ministers are to travel to India and America to promote his findings. But being contradicted by IPCC research hardly helps Britain's case, since the IPCC figures are the only ones used to frame the global debate. ***The leaked UN draft is circulating on the internet and will serve to undermine Stern's authority.***

Though the Stern review was received to universal acclaim in London, it has been attacked in other parts of the world for being alarmist and, in some cases, incompetent.

His nightmare scenario - global warming costing between 5% to 20% of GDP - was achieved by using an unusually low discount rate in his calculations. This is a standard device to justify investments with a long-term payoff.

The 11-member Organisation of Petroleum Exporting Countries (Opec) has already given the Stern Review a cold reception. Mohammed Barkindo, Secretary-General of Opec, attacked the report at an energy conference in Moscow. "We find some of the so-called initiatives of the rich industrialised countries, who are supposed to take the lead in combating climate change, rather alarming," he said. Adaptation to climate change, he added, cannot be conducted by "scenarios that have no foundations in either science or economics (referring to the Stern report's publication)".

In Washington, the Competitive Enterprise Institute (CEI) said the Stern review would have no traction internationally as its economic mistakes would be instantly recognised by experts in the field. "Stern's costs are actually more expensive than doing nothing about climate change itself," said Iain Murray, senior fellow at CEI specialising in climate change. "This is 'Chicken Little' stuff," said Murray, "except Chicken Little wasn't trying to scare the public in order to create Enron-style con games and line the pockets of Wall Street bankers at the expense of consumers."

This opprobrium sharply contrasts with the Stern review's reception in London, where his conclusions were welcomed by business and accepted by all mainstream British political parties.

Stern Report – New climate “hockey stick”?

[CSPP Note: To review the devastating document that spurred the need for the Stern Report, see: (<http://ff.org/centers/csspp/pdf/lords.pdf>) See also: (<http://ff.org/centers/csspp/pdf/ceres.pdf>)

Climate-change report has a political history

Document predicts huge economic losses, makes Blair look like a leader on issue

National Post (Canada)
Joseph Brean
Tuesday, October 31, 2006

The British government's report on the economic effects of climate change, which pegs the cost of inaction at up to 20% of the global economy each year "now and forever," had several immediate effects when it was released yesterday.

It drew faint praise from the White House, which called it a "contribution" but failed to endorse its conclusions. It drew scorn from some corners of the energy industry, with one spokesman calling it "fun with numbers."

Prominent economists threw their influence behind it. Amartya Sen, the 1998 Nobel laureate in economics, said, "The world would be foolish to neglect this strong but time-bound practical message."

It gave British Finance Minister Gordon Brown the ideal moment to announce that Al Gore, the former U.S. vice-president turned climate change champion, would be his new environmental advisor. And it cast British Prime Minister Tony Blair into the role in which he is most comfortable, that of the high-minded international statesman cajoling the United States to do the right thing.

But it also had climate change skeptics wondering: Is US\$9.6-trillion -- which is what 20% of global GDP amounts to -- the new hockey stick?

When it was presented in 1999, the hockey stick (<http://ff.org/centers/csspp/pdf/McIntyre-E-E-2003.pdf>) -- a graph developed by U.S. scientist Michael Mann that purported to show a steep spike in global temperatures starting around 1900 -- grabbed the world's attention. By 2001, when the Intergovernmental Panel on Climate Change (IPCC) promoted the graph as a reason why governments must act quickly against carbon emissions, it had become a rhetorical trump card, a club with which believers could beat back skeptics.

And if the hockey stick was not completely wrong, it was at least deeply flawed. Last year, a report to the U.S. House of Representatives concluded that Prof. Mann's claim that the 1990s was the hottest decade of the millennium, and 1998 the hottest year, "cannot be supported by his analysis."

As the figure of US\$9.6-trillion was trumpeted around the world yesterday, it had that same feeling of an instant truism -- alarming, easily grasped and impossible to disprove. It also has weaknesses of its own.

"What's striking is that when [Sir Nicholas Stern, the report's author and former chief economist at the World Bank] went to the available literature in the economics journals, he didn't find support for some of the extreme damage estimates, so he

developed a whole new model," said Ross McKittrick, a University of Guelph economist who was instrumental in debunking the hockey stick modelⁱ.

"From what I've seen, what it does is put a lot of weight on extreme outcomes and potential disasters and downplays the ideas that were behind some of the earlier estimates, which is that climate change doesn't really affect most sectors of the economy -- just the outdoor, resource-based production sectors -- and that a lot of sectors would find climate change as much of a benefit as a cost."

In his report, Sir Nicholas acknowledges that the economic predictions "must rely on sparse or non-existent observational data at high temperatures and from developing regions."

This is more than just a minor methodological weakness, however; it represents a new and untested style of economic forecasting.

Previous analyses -- which looked at effects on agriculture, forestry, energy, water, etc. -- pegged the cost of climate change at between zero and 2% of global GDP. Some have even projected positive effects. But those analyses, according to the Stern report, failed to address the more remote catastrophic possibilities.

And so his report is presented as an investment case study. Invest 1% of global GDP each year to combat climate change, and by stabilizing atmospheric carbon at between 450 and 550 parts per million (today it is 430), you will lower the risk of economic damage as bad as the Great Depression or the World Wars.

"We do not have to rein back growth. We can grow and be green if we pay 1% more for what we buy," Sir Nicholas said. "Economically speaking, mitigation is a very good deal. Business as usual, on the other hand, will eventually derail growth."

With all the hype yesterday over the US\$9.6-trillion figure, and with Mr. Blair's declaration that this is "the most important report on the future published by this government," it was easy to forget that the Stern report is not a global document, like the IPCC's was. It was prepared in Whitehall for the British Treasury by a government economist and comes with a revealing political history.

Mr. Blair's Cabinet was embarrassed last summer by a report on this same topic from the economics affairs committee of the House of Lords.

It raised concerns about the "objectivity" of the IPCC process and noted that IPCC literature downplays the "positive aspects of global warming." The government should therefore "press the IPCC to reflect the costs and benefits of climate change in a more balanced way." It also criticized the government's "dubious assumptions about the roles of renewable energy sources and of energy efficiency," urging it to "transparently" present the estimated costs of meeting its emissions-reduction goals.

In essence, the Lords report criticized the government for exaggerating the risks of climate change and understating the costs of possible remedies. Two weeks later, the Stern report was announced, and it argues precisely the opposite -- that the risks are huge and the costs are small.

Meanwhile, Britain's opposition Tories under their charismatic new leader, David Cameron, have bet their political future on a green agenda in an effort to eat into the Labour party's traditional support base. In many ways, then, the calculations in this report seem to be as much political as economic.

As The Daily Telegraph reports today, "what all the fuss about Stern means above all is a recognition by Labour of the electoral danger of David Cameron. Cameron's decision to grasp the green agenda has caught them napping."

Dick Lindzen's comments

It is symptomatic of this discourse that no one has looked into the scientific part of the arithmetic. Remember, we are currently in the square root regime for climate forcing by CO₂. Thus, compared to the pre-industrial level of 280 ppmv, we are currently at 430 ppmv (CO₂ equivalent) and this forcing is 2.6 watts per square meter. At 550 ppmv, this rises by about 0.8 watts per square meter, and at 700 ppmv it rises another 0.8 watts per square meter. In other words, with or without Stern's goals, the greenhouse is scheduled to rise much less than it has already risen -- and, so far, using NOAA's NCDC analysis, surface temperature has risen only about 0.5C, and it is unlikely that this is all due to man. This is all basic and uncontroversial.

Dick Lindzen, MIT

Scientific concerns over Stern report

<http://www.telegraph.co.uk/opinion/main.jhtml?menuId=1588&menuItem=1&view=DISPLAYCONTENT&grid=A1&targetRule=0#head6>

Prof Paul Reiter, Institut Pasteur, Paris

Daily Telegraph, 2nd November

Sir – I have seen Al Gore's film, An Inconvenient Truth, read the book, and read the Stern report. As a scientist, I am appalled. Both authors present myriad dangers as truth – no doubts, a 100 per cent consensus. Yet a glance at the professional literature on glaciers, hurricanes etc. confirm that this consensus is a myth. Besides, consensus is the stuff of politics, not of science.

I am reminded of Trophim Lysenko, who used pseudoscience and myth-making to establish "scientific proof" of Marxist genetics. Lysenko dominated Soviet science for more than two decades by propaganda and ruthless liquidation of his opponents. When he was finally discredited, the Soviet Nobel Laureate Nicolai Semyonov wrote: "There is nothing more dangerous than blind passion in science. Given support from someone in power, it can lead to suppression of true science, and... to inflicting great injury on the country".

Popular knowledge of scientific issues is again awash with misinformation. Alarmists use the language of science to manipulate public perceptions by judgmental

warnings. Scientists who challenge them are branded as a tiny minority of "sceptics". One of the few geneticists who survived the Stalin era wrote: "Lysenko showed how a forcibly instilled illusion, repeated over and over at meetings and in the media, takes on an existence of its own in people's minds, despite all realities." To me, we have fallen into this trap. A genuine concern for mankind demands the inquiry, accuracy and scepticism that are intrinsic to science. A public that is unaware of this is vulnerable to abuse.

ANALYSIS - Climate Change Appeal Fails to Silence Sceptics

<http://www.planetark.com/dailynewsstory.cfm/newsid/38739/story.htm>

Story by Gerard Wynn

"It assumes that society will never get used to higher temperatures, changed rainfall patterns, or higher sea levels. This is a rather dim view of human ingenuity," said Richard Tol, senior research officer at Ireland's Economic and Social Research Institute.

"The Stern Review can therefore be dismissed as alarmist and incompetent."

LONDON - The high-profile launch of the biggest-ever study of the costs of climate change failed to dispel doubts over whether the world will heed its stark call for action to tackle global warming.

British Prime Minister Tony Blair welcomed the U.K.-backed report as "the most important report on the future published by this government", and his finance minister Gordon Brown said it meant environmental policy was now economic policy.

The report's author, former World Bank chief economist Nicholas Stern, argued that urgent action on climate change now would save some US\$2.5 trillion compared with doing nothing, and would help avert possible economic and planetary catastrophe.

The weighty report provides ammunition for Blair's drive to persuade the United States, as well as fast-growing developing nations China and India, to sign up to a new global framework to curb greenhouse gas emissions.

The report is also meant to galvanise industry to invest in "green" energy and make people see the sense of taxes to limit the use of emissions-producing fossil fuels.

"It's about creating carbon markets, creating a price incentive to cut back on carbon, about promoting research and development, about encouraging energy efficiency," Stern said.

"Above all it's international, it's getting countries to move together," he told Reuters after delivering the 580-page report to Blair and Brown.

One thing on which all analysts, policy makers, investors and lobbyists seemed to agree was this need for global action.

British Foreign Secretary Margaret Beckett will brief ambassadors in London on Stern's report while Stern himself will visit the United States and other countries to talk to academics, government officials and environmental groups.

"Unless you have an international framework which has not just Europe, but America and China and India in it then there will be a limit to the degree to which your company is going to get fully behind this," said Blair.

The world does not have a good record on curbing greenhouse gases. The United States, the world's biggest emitter, in 2001 pulled out of the Kyoto Protocol, the only world-wide policy on climate change.

"The US government has produced an abundance of economic analysis on the issue of climate change," Kristen Hellmer, spokeswoman for the White House Council on Environmental Quality, said. "The Stern report is another contribution to that effort."

"The fact is there's a very, very deep body of scepticism and resistance...not only in the United States although that's perhaps the focal point," said Michael Grubb, chief economist at Britain's Carbon Trust, a group which spearheads Britain's drive to a low-carbon economy.

CREDIBILITY

While Washington's full support for Stern's findings was always uncertain, some of its implications will sit uneasily even with the European Union.

It calls for action to keep greenhouse gases at a level in the atmosphere -- up to 550 parts per million -- which the EU has in the past rejected as too high, saying it risks dangerous climate change which it defines as an average 2 degrees Celsius global warming.

"(550 ppm) offers at most a one in six chance of respecting the 2 degrees target," the European Commission said last year.

"Limiting the temperature rise to 2 degrees would very probably require greenhouse gas concentrations to be stabilised at much lower levels," it said.

The report by Stern, the British government's chief economist, earned a sceptical response from some fellow economists.

At the core of the report was the message that urgent action now would cost up to 20 times less than doing nothing.

"Telling people that this (action on global warming) will cost quite a

trivial sum is giving the wrong kind of direction," said Dieter Helm, an economics fellow at New College, Oxford. "I think 1 percent of GDP is probably quite low."

Others were unimpressed by Stern's cost estimate of doing nothing.

"It assumes that society will never get used to higher temperatures, changed rainfall patterns, or higher sea levels. This is a rather dim view of human ingenuity," said Richard Tol, senior research officer at Ireland's Economic and Social Research Institute.

"The Stern Review can therefore be dismissed as alarmist and incompetent."

OPEC says British climate change report "unfounded"

Reuters, 31 October 2006

http://today.reuters.com/news/articlenews.aspx?type=worldNews&storyid=2006-10-31T101400Z_01_L31174050_RTRUKOC_0_US-ENVIRONMENT-STERN-OPEC.xml&src=rss&rpc=22

By Tanya Mosolova

MOSCOW (Reuters) - A hard-hitting report on climate change published by the British government on Monday has no basis in science or economics, OPEC's Secretary-General Mohammed Barkindo said on Tuesday.

The report written by former World Bank chief economist Nicholas Stern said that failure to tackle climate change could push world temperatures up by 5 degrees Celsius (9 Fahrenheit) over the next century, causing severe floods and harsh droughts and uprooting many as 200 million people.

The study recommended taking action now to offset the far greater cost of dealing with climate change later.

But Barkindo told an energy conference in Moscow that the Organization of the Petroleum Exporting Countries (OPEC) -- which holds around two thirds of the world's oil reserves -- opposed such research (sic) efforts.

"We find some of the so-called initiatives of the rich industrialized countries who are supposed to take the lead in combating climate change rather alarming," he said.

"One recent example is the review on climate change that was issued yesterday by the UK government in London."

Stern's report was welcomed by environmental activists as well as by the British government and the European Commission. The White House Council on Environmental Quality said it was a contribution to an abundance of economic analysis on climate change.

Barkindo said it was misguided but he did not elaborate on possible solutions to the problem.

"The mitigation and adaptation to climate change can only be accomplished on the principles of common responsibility and respected capabilities and not by scenarios that have no foundations in either science or economics as we had yesterday from London," he said.

OPEC is made up of Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela.

Australia, which alongside the United States has not signed the Kyoto Protocol designed to curb Greenhouse gas emissions, also said on Tuesday it did not accept the British report.

Don't heed stern warning

<http://www.theaustralian.news.com.au/printpage/0,5942,20680587,00.html>

Australians are in danger in talking up climate change scares that may never come to pass

By Alan Wood, *The Australian*

THE Stern review on the economics of climate change is at least as much a political tool as an economic assessment. This is not necessarily a criticism, if you accept its conclusions.

These conclusions are alarming and are being used to spread alarm. If you doubt that, then consider this one: "Our actions now and over the coming decades could create risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes."

Or this: "Using the results from formal economic models, the review estimates that if we don't act, the overall costs and risks of climate change will be equivalent to losing at least 5 per cent of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, these estimates of damage could rise to 20 per cent of GDP."

Its author, Nicholas Stern, would no doubt say his aim is simply to bring home the gravity of the challenge climate change represents. That is a commendable aim if action is as urgent as he believes.

His proposal for action is not modest. He wants annual global emissions of greenhouse gases ultimately reduced by more than 80 per cent below present levels. His interim aim is to stabilise greenhouse gas levels at between 450 and 550 parts per million of CO₂ equivalent. He says this will require emissions to be at least 25 per cent below present levels by 2050, and perhaps much more.

There is a carrot offered, as well as a stick. Act now and the costs could be about 1 per cent of global GDP annually, rather than 5 to 20 per cent.

Not surprisingly, the headlines in the British press had a doomsday flavour, as did some here. But should we uncritically accept the findings of the Stern review?

Kim Beazley seems to think so. At a Canberra doorstep yesterday he made this sweeping assertion: "I am absolutely fair dinkum about dealing with the consequences of climate change. When we are elected to office, we will fix this."

Well, thank God for that, but how?

"How you fix it is you start by ratifying Kyoto."

Oh dear. Kyoto was never going to do anything significant about global warming, has fallen apart as key members can't meet its targets for emission reductions, and its associated carbon-trading scheme has turned into a bad joke. Oh, and it excludes the major emitters of greenhouse gases in the developing world, India and China, who have made it clear the Kyoto framework is totally unacceptable to them.

Beazley has no doubts about the Stern report.

"Now, this bloke is a World Bank economist, or that's what he was, a World Bank economist. He knows what he's talking about."

Not necessarily. When Stern was chief economist at the World Bank he got into an argument with the formidable former commonwealth statistician, Ian Castles, over the inappropriate use of statistics in the bank's development report (on emissions, as it happens), an argument Castles seems to have won.

However, it is simply not possible to comprehensively analyse a report of more than 600 pages within a 24-hour news cycle.

It is sensible to wait and see how the Stern review stands up to critical analysis once economists and others have had time to look at it carefully.

There are recommendations that make sense regardless of the credibility or otherwise of its economic modelling. For example, it is obviously sensible to focus on clean-coal technology given, as Stern acknowledges, the world is going to be overwhelmingly dependent on carbon-based energy for a long time yet.

However, it would be surprising if the economic modelling emerges unscathed. Bryce Wilkinson, a former senior official with the New Zealand Treasury and now a private consultant, raised some questions in a preliminary look yesterday.

For example, he noted it is not clear who conducted the modelling work or whether enough time has elapsed for it to be subject to independent peer review, and commented "one suspects not: this appears to be a case of declaring an unequivocal finding by press release".

The history of economic modelling exercises of this sort, making long-term forecasts about future economic developments, is not encouraging.

The Stern review itself sensibly cautions about the inevitable difficulties of all these models in extrapolating over very long periods of time, and warns against "over-literal" interpretation of the results.

This caution, however, will be lost on the reader of its boldly stated headline conclusions.

But there is a more fundamental point. As Stern recognises, and John Howard keeps pointing out, there is no way of finding an acceptable method of dealing with emissions unless everybody is in, and we are a long way from that.

It is interesting that when a suggestion was floated for taxes on motorists and air travel in response to Stern there was an immediate and hostile reaction from two British newspapers as different as London's The Sun and The Daily Telegraph.

The Sun huffed that "the Government's plans to hammer motorists and holidaymakers with extra taxes to halt global warming are simply not good enough. Our readers are already among the world's most heavily taxed people." The Telegraph said bluntly that green taxes were not the solution to a better world. British business didn't like it either.

Even with the scary scenarios painted by Stern, convincing electorates the pain is worth the gain won't be easy once the costs become transparent. Let's hope the Stern report proves no more reliable than earlier exercises in forecasting the future of the world.

The Worst of Both Worlds?

<http://www.msnbc.msn.com/id/15563663/site/newsweek/>

Scare stories about global warming may end up justifying policies that hurt the economy without much curbing of greenhouse gases.

By Robert J. Samuelson

Newsweek

Nov. 13, 2006 issue - It seems impossible to have an honest conversation about global warming. I say this after diligently perusing the British government's huge report released last week by Sir Nicholas Stern, former chief economist of the World Bank and now a high civil servant. ***The report is a masterpiece of misleading public relations.***

It foresees dire consequences if global warming isn't curbed: a worldwide depression (with a drop in output up to 20 percent) and flooding of many coastal cities. Meanwhile, the costs of minimizing these awful outcomes are small: only 1 percent of world economic output in 2050.

No sane person could fail to conclude that we should conquer global warming instantly, if not sooner. Who could disagree? Well, me. ***Stern's headlined conclusions are intellectual fictions. They're essentially fabrications to justify an aggressive anti-global-warming agenda.*** The danger of that is we'd end up with the worst of both worlds: a program that harms the economy without much cutting of greenhouse gases.

Let me throw some messy realities onto Stern's tidy picture. In the global-warming debate, there's a big gap between public rhetoric (which verges on hysteria) and public behavior (which indicates indifference). People say they're worried but don't act that way. Greenhouse emissions continue to rise despite many earnest pledges to control them. Just last week, the United Nations reported that of the 41 countries it monitors (not including most developing nations), 34 had increased greenhouse emissions from 2000 to 2004. These include most countries committed to reducing emissions under the Kyoto Protocol.

Why is this? Here are three reasons.

First: With today's technologies, we don't know how to cut greenhouse gases in politically and economically acceptable ways. The world's 1,700 or so coal-fired power plants-big emitters of carbon dioxide, the main greenhouse gas-are a cheap source of electricity. The wholesale cost is 4 to 5 cents a kilowatt hour, says the World Resources Institute. By contrast, solar power is five to six times that. Although wind is roughly competitive, it can be used only in selective spots. It now supplies less than 1 percent of global electricity. Nuclear energy is cost-competitive but is stymied by other concerns (safety, proliferation hazards, spent fuel).

Second: In rich democracies, policies that might curb greenhouse gases require politicians and the public to act in exceptionally "enlightened" (read: "unrealistic") ways. They have to accept "pain" now for benefits that won't materialize for decades, probably after they're dead. For example, we could adopt a steep gasoline tax and much tougher fuel-economy standards for vehicles. In time, that might limit emissions (personally, I favor this on national-security grounds). Absent some crisis, politicians usually won't impose-and the public won't accept-burdens without corresponding benefits.

Third: Even if rich countries cut emissions, it won't make much difference unless poor countries do likewise-and so far, they've refused because that might jeopardize their economic growth and poverty-reduction efforts. Poorer countries are the fastest growing source of greenhouse emissions, because rapid economic growth requires energy, and present forms of energy produce gases. In 2003, China's carbon-dioxide emissions were 78 percent of the U.S. level. Developing countries, in total, accounted for 37 percent of greenhouse-gases emissions in 2003. By 2050, their share could be 55 percent, projects the International Energy Agency.

The notion that there's only a modest tension between suppressing greenhouse gases and sustaining economic growth is highly dubious. Stern arrives at his trivial costs-that 1 percent of world GDP in 2050-by essentially assuming them. His estimates presume that, with proper policies, technological improvements will automatically reconcile declining emissions with adequate economic growth. This is a heroic leap. To check warming, Stern wants annual emissions 25 percent below current levels by 2050. The IEA projects that economic growth by 2050 would more than double emissions. At present, we can't bridge that gap.

The other great distortion in Stern's report involves global warming's effects. No one knows what these might be, because we don't know how much warming might occur, when, where, or how easily people might adapt. ***Stern's horrific specter distills many of the most terrifying guesses, including some imagined for the 22nd century, and implies they're imminent. The idea is to scare people while reassuring them that policies to avert calamity, if started now, would be fairly easy and inexpensive.***

We need more candor. Unless we develop cost-effective technologies that break the link between carbon-dioxide emissions and energy use, we can't do much. Anyone serious about global warming must focus on technology-and not just assume it. Otherwise, our practical choices are all bad: costly mandates and controls that harm the economy; or costly mandates and controls that barely affect greenhouse gases. Or, possibly, both.

Stern Climate Report: Orgy of Doom and Gloom

Hans Labohm

There is nothing like a good apocalypse.
The Economist

Why do so many scientists as well as lay people love the apocalyptic projections of climate science? I venture the thought that it is the authority of the computer. In our secularised society the computer has been put on a divine throne. People will believe anything when it has been generated by a computer with a sheer power of a billion mega-whatever.

Just remember the hype about the forecasts of the Club of Rome in the seventies, when black box computer models floated the idea that the people in rich countries were consuming too much to doomsday-like proportions. However, as in generally known, computers work on the principle of garbage in, garbage out.

Dennis Meadows, one of the scientists responsible for the computer models of the Club of Rome, admitted that only 0.1 percent of all the knowledge that was needed, had been put into the models. Apparently, modellers thrive in a data free environment.

Why did broad swathes of the population react so sharply to the alarmist utterances of scientists and the media? Part of the explanation could lie in the fact that the climate alarmism and doom-mongering conjure up archetypal images which occupy an important place in western civilization: apocalyptical visions which have reappeared in new forms down the centuries. The earliest known examples of this are perhaps the predictions in the Book of Revelations. These describe how the world will be consumed in flames. In times past, various authors, including Plato and Aristotle, have also painted overpopulation as a threat to mankind. Later, in the second century after Christ, Tertullius, who lived in Cartage, wrote on the same theme. If we jump forward in time, a

warning about the same danger was issued by Giovanni Botero, a 16th century Italian scholar. He was followed two centuries later by Thomas Malthus in his famous Essay on Population (1798). Of more recent date is the first report to the Club of Rome by Dennis Meadows et al, The Limits to Growth, in which physical limits to growth are predicted which were supposed to lead to all sorts of catastrophes around 2000. The receptiveness of the public to this doom-mongering is intensified yet further by the religious concept of sin and guilt felt by many, as well as a rejection of hedonism with its materialism and consumerism, and the contrast between the worlds poor and rich.

What all these predictions have in common is that they failed to materialize. In particular, the methodology of Meadows exhibits similarity with the current climate studies. The use of models and (super)computers is central. It sometimes seems as if they have taken the place of the magic crystal ball of yesteryears fortune-tellers. They confuse the general public, which is not familiar with the fundamental limitations of the model approach.

It was the American climatologist Stephan Schneider who coined a marvellous quote, to which climate sceptics love to refer in order to expose the - sometimes - dubious practices of the adherents of the man-made global warming hypothesis:

On the one hand, we are ethically bound to the scientific method, in effect promising to tell the truth, the whole truth, and nothing but [...] which means that we must include all the doubts, caveats, ifs, and buts. On the other hand, we are not just scientists, but human beings as well. And like most people wed like to see the world a better place, which in this context translates into our working to reduce the risk of potentially disastrous climatic change. To do that we have to get some broad-based support, to capture the publics imagination. That, of course, entails getting loads of media coverage. So we have to offer up scary scenarios, make simplified, dramatic statements, and make little mention of any doubts we might have. This 'double ethical bind' we frequently find ourselves in cannot be solved by any formula. Each of us has to decide what the right balance is between being effective and being honest. I hope that means being both."

Unfortunately, Schneider's last pious hope has not been fulfilled.

Scaremongering has vastly overtaken doubts. And he himself was second to none in this undertaking.

Enters a new team of modern day Nostradamuses, headed by Sir Nicholas Stern, which in their recent Review on the Economics of Climate Change unequivocally proved that it was still possible to outclass all previous scaremongering. According to the report: Our actions over the coming few decades could create risks of major disruption to economic and social activity, later in this century and in the next, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century.

Fortunately, however: The evidence gathered by the review leads to a simple conclusion: the benefits of strong, early action considerably outweigh the costs. Well is that true? Perhaps yes if one assumes that global warming is predominantly man-made, and if one further assumes that the more frightening

projections by the International Panel on Climate Change (IPCC) accurately foretell the future. But that is not the case. Even the IPCC itself stresses over and over again that the science that is used to support the theory, labours under huge uncertainties.

All proof of anthropogenic global warming is model-based. Yet, today's climate models are very primitive. They are not able to capture reality. They have not been validated. They are not capable of simulating past climate. A fortiori they are not capable of forecasting future climate.

Frightening global warming does only exist in the virtual reality of the climate models. The most accurate measurements - those with satellites - show only a very modest increase of temperatures over the past 27 years, but the change has not been statistically significant. That means that the real climate refuses to comply with the models. Moreover, such a warming is rather beneficial than harmful to mankind.

In the mean time, the fear of man-made global warming might offer a bonanza for the British Treasury. As Simon Walters in The Mail noted: Secret plans for a multi-billion-pound package of stealth taxes on fuel, cars, air travel and consumer goods have been drawn up by the Government to combat global warming. The proposals show that the Government is considering introducing a raft of hard-hitting eco-taxes that will have a devastating effect on the cost of living.

All in all, Sir Nicholas Stern and his team has offered us a fine piece of fiction: an apogee at least for the moment - of scaremongering, which offers a perfect scenario for a sequel to Al Gores An Inconvenient Truth .What is actually happening to the British, who used to be renowned for their common sense?

Too Stern a view of climate change

http://www.junkscience.com/oct06/Stern_review_press_release.doc

THE SCIENTIFIC ALLIANCE

Today, Sir Nicholas Stern has published his review of the economic implications of modelled climate change. Not surprisingly, his conclusions are those which the government wanted: high levels of expenditure now will prevent much greater economic damage arising from the projected influence of Mankind on the global climate.

The Scientific Alliance believes that Sir Nicholas's talents have been misused. His calculations are based on the output of complex computer models, all constructed on the assumption that average global temperatures are directly linked to atmospheric levels of greenhouse gases - in particular carbon dioxide. His estimates are doubtless correct for the scenarios presented, but we question the validity of the starting point.

Martin Livermore, director of the Alliance, said "Evidence is building that climate is not driven primarily by human use of fossil fuels, as most people have been led to believe. There have been significant temperature changes during the last millennium, well before industrialisation, and the major influence of fluctuations in cosmic rays from the Sun have been under-represented in the work of the IPCC⁷. The billions which this review says it is necessary to spend are likely to have little positive effect, and could be put to much better use in helping the world's poorest people to create better lives for themselves."

Despite rising levels of carbon dioxide, 1998 remains the warmest year on record. Although hurricane Katrina caused catastrophic damage in 2005, it was not an especially intense storm, and 2006 has been a particularly quiet hurricane season. While the Western Antarctic ice shelf is breaking up, more snow is falling over a much greater area in Eastern Antarctica. Climate changes all the time and humans undoubtedly have some influence, but to believe that drastic reductions in our use of fossil fuels will necessarily have any real effect on a climate system which we don't understand is to distract our attention from the current needs of the majority of the world's population.

According to Martin Livermore, "Gordon Brown's recruitment of Al Gore as an advisor – perhaps the world's leading propagandist for a one-sided and alarmist view of Mankind's role in climate trends – shows how much a single analysis of the evidence currently dominates policy. The government still has time to bring cooler heads into the debate, look at the evidence in a more balanced context and develop policies which can make a difference to people's lives in the here and now."

1. The Scientific Alliance is a membership-based organisation which campaigns for an evidence-based approach to environmental issues and policy-making.
2. For further comment or interviews, please call on 01223 421242 or 07984 033354
