

Policy:

Precautions for the day after tomorrow

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Climate change is both a major policy issue and a part of popular culture. For many, it has become synonymous with “global warming”, catastrophic weather events, submerged countries and a general end to life as we know it today. This view reflects a mainstream acceptance – in the developed world at least – that the Earth is warming; a trend caused by increasing carbon dioxide and other greenhouse-gas (GHG) levels in the atmosphere, with serious consequences for future generations and a sense that, because it is our fault, we can and must do something to avoid, or at least mitigate, the possibly catastrophic consequences.

But uncertainties over the nature, causes and potential impacts of climate change are plentiful and cannot be dismissed in any serious discussion of what global climate change may or may not represent. Supporters of the mainstream global-warming view are able to cite climate-change “facts” that are largely (though not entirely) uncontested, such as increased levels of carbon dioxide in the atmosphere and a general warming trend in global temperatures over the past 150 years. What is far less clear, however, is what these “facts” actually mean and the extent to which they are significant in relation to our existence and the natural environment.

And therein lies the rub. How confident are we, for example, that the “global-warming” scenario is an accurate representation of what is happening today and what will happen tomorrow? What is our confidence for or against global-warming predictions based upon? And, most importantly, how does our confidence in such predictions stack up against the costs of taking precautions today against the predicted (but unknown) future costs of global warming?

The policy problem, as framed by the current global-warming debate, is essentially a choice between accepting substantial economic and political pain today by making emission reductions (high level of certainty) in the hope that doing so will significantly reduce the possible costs of global warming in the future (comparatively low level of certainty), or adopting a mostly business-as-usual approach in the hope that the majority of scientists have got it wrong (for example, the recent Asia Pacific Partnership initiative).

The stakes are high, as are the associated uncertainties. But, because the stakes are so high, it is imperative that we do not make the error of confusing “consensus” with “certainty” or “scepticism” with politically motivated “contrarianism” in the course of debating the appropriate response. Neither scientists nor policy-makers are able to view the potential outcomes and the impacts they may have in a politically neutral or unbiased way; everyone has their own value-based assumptions about what is good, bad or more, or less, important and these assumptions cause us to interpret uncertainty and risk in different ways.

The real policy challenge, then, is to recognise these inherent biases and balance them as best we can. And the best way of doing so is to adopt what Bertrand Russell called a “middle position” on scepticism. In his book *Sceptical Essays* (1928), Russell advised: “Even when the experts all agree, they may well be mistaken. Einstein’s view as to the magnitude of the deflection of light by gravitation would have been rejected by all experts twenty years ago, yet it proved to be right. Nevertheless the opinion of experts, when it is unanimous, must be accepted by non-experts as more likely to be right than the opposite opinion.”

The problem is that expert opinion is very seldom unanimous; in fact, the more important the issue and the greater the political costs involved, the less likely unanimity becomes. The best that can be hoped for is a majority consensus, which is a good deal less comforting than unanimous opinion when important decisions need to be made. In this situation, Russell advised “that when they [the experts] are not agreed, no opinion can be regarded as certain by a non-expert”.

So, as a climate-change “nonexpert”, and at the risk of being labelled a “contrarian” or “heretic”, I will take a sceptical approach to the global-warming debate and initiatives, not to stonewall or delay measures against potential climate-change dangers, but as a way of moving beyond the current political quagmire and developing alternative approaches.

The existing debate is unproductive because it is focused on the unresolvable question – for the time being at least – of “who has got it right?” rather than the more relevant question of “how do we best cope with getting it wrong?” The solutions this debate has offered up so far are either impractical or ineffective (or both), since they are generated mostly by unrealistic expectations and political posturing – as illustrated by the most vocal supporters of the congenitally flawed 1997 Kyoto Protocol, on the one hand, and an unwavering resistance to any climate-change initiative that may interfere with the economic and political interests of some governments, in particular the United States and Australia, on the other.

A far more appropriate response to climate change, and the threats it may or may not involve, is to hedge our bets by concentrating our efforts on replacing fossil fuels with a more diverse and cleaner array of renewable-energy sources as quickly as possible.

Doing so would not only greatly reduce human carbon dioxide emissions but also provide, with a relatively high degree of certainty, a host of additional benefits that could be realised regardless of all but the most catastrophic climate-change consequences and with far less economic and political damage. Prioritising the development of renewable-energy sources would enhance the ability to manage and adapt to future climate changes and still pay dividends, even if global-warming threats fail to occur, or occur despite carbon-emission reductions.

Reducing carbon emissions is not a bad idea with or without the threat of global warming; they do contribute significantly to air pollution. But the Kyoto Protocol, as it stands, is largely symbolic and does little more than state the view that people need to reduce carbon emissions. It is flawed by its narrow emphasis on reducing carbon dioxide levels and its failure to address the broader uncertainties and potential costs involved.

The extent to which climate-change-related problems are, or will be, primarily the result of carbon dioxide increases caused by people is still very unclear. Issues of natural climate variation and the impact of aerosols, water vapour, clouds and sun spots, in addition to the causes and role of naturally generated methane, to name but a few areas of concern, have all raised questions for which scientists and their climate models remain unable to fully account.

The question, then, should not be all about who has got it right; we should also be thinking about how we can develop a strategy that best manages the risks involved with getting the causes and potential effects of climate change wrong, at least until we are in a position to more confidently discuss what is or isn't going to happen.

Research recently published in *Nature* (January 12, 2006) further illustrates the likelihood of *knowledge* suddenly morphing into questionable assumptions. Four European scientists have concluded that, contrary to conventional scientific wisdom, large amounts of methane (an important GHG) are produced by living – instead of decaying – terrestrial vegetation. As all good research should, this study both questions what we think we already know and raises new questions that we haven't previously considered. One of the questions it raises in the context of global warming is the usefulness of mitigating carbon emissions by using forests and reforestation projects as "carbon sinks", one of the Kyoto Protocol's major initiatives, if forests are contributing rather than only absorbing GHGs.

Another emerging problem is that, even if we accept the current consensus on the causes and possible impacts of global warming, there is little agreement over the kinds of carbon-emission reductions needed to create significant relief. Supporters of the so-called mitigation approach, which focuses on emission reductions and is central to the Kyoto Protocol strategy, are now being undermined by warming and GHG retention-rate estimates and impact assessments, indicating that nothing short of major short-term reductions will be effective.

One such study appeared in a report on the *New Scientist* website (NewScientist.com) on February 3, 2005. The report concluded that the European Union's target of limiting global warming to two degrees "now appears wildly optimistic".

The study claims that if GHGs are to reach "safe levels", current global emissions need to fall to between thirty and fifty per cent of 1990 levels by 2050 (the Kyoto Protocol aims to reduce the collective GHG emissions of industrialised countries by 2012 by just over five per cent compared with 1990 levels).

If such studies are reliable, the economic and political costs of trying to avoid the worst of global warming are looking more and more likely to be so great as to be unacceptable to all but the most devout environmentalists; most people quite simply could not or would not tolerate the serious economic effects that major short-term emission reductions would involve.

Given the many significant uncertainties that characterise our understanding of the global climate and the effects of our interaction with it, it is absurd to argue that people, especially in developing countries, should accept major economic cost and hardship in order to limit one of the many variables that may be behind climate change. Moreover, it is highly probable that adopting such a response would effectively handicap the ability of societies and governments to take adaptive measures against any climate-change impacts that may actually occur.

Proponents of the global-warming scenario consistently advocate a precautionary approach to the potential threat of rising ocean levels, a stalled Gulf Stream, increased desertification and a host of extreme weather events. It is an approach best illustrated by the vexed ambitions of the Kyoto Protocol and its goal of lowering carbon dioxide emissions in the hope of lessening expected impacts of global warming. The longer-term risks posed by global warming, precautionary advocates argue, are so great they negate the uncertainties or short-term costs.

In other words, an ounce of prevention is worth a pound of cure. But one of the problems with the so-called "precautionary principle" approach to future threats and risks – in addition to the challenge of clearly identifying the potential threats and understanding their nature and likelihood – is the fact that attempts to address one set of risks invariably create other, often unanticipated, risks. As one "proglobal warming" scientist recently put it, although his intentions for doing so were somewhat different from mine, "uncertainty is inevitable, but risk is certain".

And indeed it is. Drastically reducing carbon dioxide emissions may well reduce the future risk of climate-related disasters and hardship. But what additional risks are incurred by doing so, and are they more or less of a threat than the risks they were originally designed to mitigate? One illustration of the unavoidable nature of risk in the context of global warming is provided by the geopolitical instability and

tension that would almost certainly result from attempts to impose short-term emission reductions on sovereign states, at a time when energy-access concerns are already creating what some are calling “a new great game” of strategy in Eastern and Central Asia, Europe and the Middle East.

Developing countries like India, China and Indonesia are highly sensitive to the economic costs, especially in relation to energy supply, that dramatic short-term emission reductions would bring. As the fall of the Soeharto regime in Indonesia in the late 1990s demonstrated, stalled economic growth can easily lead to destabilisation of the government and even the state itself, with the potential for internal instability to then spill over and compromise the security (both human and national) of other states or entire regions.

Another “risk” emerges from the emergence of nuclear power as a possible solution to the problem of reducing GHG emissions. Not surprisingly, global-warming scenarios have added a new lustre to the tarnished image of nuclear power. Are the risks of nuclear power and waste less than those of global warming? “Yes” is the rather predictable reply from the nuclear-power lobby, but how big a threat are modern nuclear power stations and who is going to live near them? Equally worrying is the issue of where the waste will be stored, not to mention the question of how much of it will actually become weapons-grade plutonium rather than waste, particularly if fast-breeder reactors become the preferred generators.

If the consequences of global warming are even half as bad as some scientists would have us believe, do the risks posed by nuclear power then become acceptable, and if so, by whose reckoning? A precautionary approach, rather than eliminating or reducing risk, merely changes the kinds of risk we are exposing ourselves to. The question then becomes one of which risks we want to avoid and what we are prepared to sacrifice to do so.

It is a mistake to be focusing on emission reductions, since there are far too many uncertainties and risks involved for us to act with any reasonable degree of confidence in identifying and then selecting those we prefer to face or avoid. Supporters of the mainstream global-warming view often argue that future generations will never forgive us if we fail to act against the future consequences. That is no doubt true, but this argument assumes that we know what the consequences are and also neglects the possibility that drastic action today – on the basis of untestable assumptions about the future – may also have consequences that our great-grandchildren will find equally difficult to forgive – development failures, worsening poverty, neglect of other pressing environmental and social issues, and greater risk of military conflict.

Critics of the Kyoto Protocol are right when they argue that its strategies are undermined by too many questionable assumptions about the likely costs and

by divisions, even among those who support the global-warming consensus, over how effective the protocol's reductions would be, even if full international cooperation and implementation were possible. Prominent among such critics, unfortunately, are those who prefer to use the Kyoto Protocol's shortcomings as a political foil for having no climate-change strategy rather than as a reason for developing an effective alternative.

During the inaugural meeting of the six-member Asia Pacific Partnership group (AP6) in January, two of the Kyoto Protocol's two biggest critics, US President George W. Bush and Australian Prime Minister John Howard, talked up the importance of developing renewable energy sources as a way of combating global-warming threats without incurring crippling economic penalties. Their actions failed to do their words justice. Howard, for example, made it clear that the Australian Government remains committed to fossil fuels, calling them "an enduring reality for our lifetime and beyond", and therefore places a comparatively low priority on ensuring their replacement by alternative energy sources any time soon.

Of the \$100 million Howard has dedicated to the partnership over the next five years, Australia will contribute only \$5 million a year to renewable-energy projects. This, according to a government press release, is in addition to the \$200 million the government claims it has already invested in developing renewable energy. (Meanwhile, \$500 million has been "invested" in so-called "low-emission technologies".) The US government, which spends more than \$US400 billion on its military each year, committed a meagre \$US52 million from its 2007 budget, subject to approval by Congress.

Both governments essentially used the AP6 as cover for dodging global warming by announcing their intention to pass the job of developing and implementing new energy technology to the private sector. Like the Kyoto Protocol, AP6 is looking more like an exercise in symbolism, the partnership as a disguise for effectively doing nothing.

Talks on the framework to replace the Kyoto Protocol when it expires in 2012 began last year, and the early indications are that the blueprint is in trouble and may be shelved. Among the possible alternatives is the idea of replacing the existing focus on crude emission cuts with targets for the development and implementation of renewable-energy targets, an encouraging sign that at least some governments are beginning to treat renewable-energy technology as a serious alternative for dealing with climate change.

Climate-change research, in the meantime, should continue with greater support from governments in the hope that future results will better account for the many uncertainties we now face and allow more informed policy decisions in future. The Kyoto Protocol should be scrapped and replaced by an international treaty that

reflects a real and determined commitment to develop alternative energy aimed at replacing fossil fuels in the short to medium term. By doing so, we will not only hedge our bets against the potential effects of climate change and our responses to it, but also build an enduring legacy for future generations that will “certainly” be appreciated. ■

References

David C. Lowe, "A green source of surprise", *Nature*, vol. 439, no. 12, January 12, 2006, pp. 148-49.

Jenny Hogan, "Only huge emission cuts will curb climate change", *New Scientist.com*, February 3, 2005, <http://www.newscientist.com/article.ns?id=dn6964&print=true>

Joint Australian Federal Government press Release, "Asia Pacific Partnership Sets New Path To Address Climate Change", January 12, 2006, http://www.pm.gov.au/news/media_releases/media_Release1743.html; "Ferguson splits left on Kyoto", *The Australian*, January 13, 2006, <http://www.theaustralian.news.com.au/printpage/0,5942,17808347,00.html>