

OPINION

Reflections on Climate Change

☞ Climate change; Emissions; Energy; Greenhouse gases; Technology

The global climate is changing, although, like others, including the scientific community, I do not know to what extent nor exactly why.

Most of us who are not experts on climate change fall back on the 2001 Third Assessment Report of the Intergovernmental Panel on Climate Change ("IPCC"). However, more recent research provides even stronger evidence of the climate change patterns described in that report.¹

Is it too late to combat climate change?

The question raised in this article is whether it is already too late for the global community to combat climate change by the measures specified and in the time-frame hoped for by the 1992 Framework Convention on Climate Change ("FCCC"). Section 2 of the FCCC stated:

"The ultimate objective of this Convention. . . is to achieve. . . stabilisation of greenhouse gas ['GHG'] concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

Many obstacles impede the taking of global action to combat climate change successfully. It may be that successful action will require far greater political and economic sacrifices than any nation will ever authorise.²

The two largest developing countries, China and India, emphatically reject any suggestion that their national interests or their economic development should be curtailed by measures to prevent global climate change.³ For them, understandably, development is the overriding concern, which is why they have joined with Australia, Japan, South Korea and the United States in the Asia-Pacific Partnership on Clean Development and Climate ("AP6").

Despite doubts that clean and affordable energy technologies can be found to reduce GHG emissions on the scale and within the time frame necessary to solve the climate problem, this does not mean that efforts to do so should not be intensified. However, in market economies (that is, in most of the world), the selection of energy technologies is for commercial firms to decide, not for governments to ordain.

The selection by investors of energy technologies entails two main activities:

- weighing up all country-specific variables; and
- carrying out a cost/benefit analysis of the various technology options, their respective "externalities" and their "timing" factors.

Country-specific variables include factors such as indigenous fuel availability, transport and grid capacity, affordability, regulatory constraints (or the lack of any), the general condition of the host economy as well as local environmental factors.

In the short term, the "dash for gas", particularly an acceleration of LNG trade, will bring significant emission reductions in gas consuming countries.

Nuclear power generation and clean coal technologies also offer early potential for reduction from the business-as-usual case. Nuclear generation has of course been a well-proven technology for decades, but continues to be demonised for non-climate related reasons that we do not go into here. Germany's 1998 policy decision to phase out nuclear power generation seems increasingly questionable in both economic and climate change terms.

1 See Report of the International Scientific Steering Committee, *Avoiding Dangerous Climate Change*, International Symposium on the Stabilisation of Greenhouse Gas Concentrations, Exeter, UK, May 2005 ("ISSC Report").

2 Undaunted, G8 leaders at the Gleneagles Summit stated in their 2005 communiqué: "We reaffirm our commitment to the UNFCCC and to its ultimate objective to stabilise greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system".

3 "We are developing countries, we have our own agendas for our development activities, so we cannot give any promise, any commitment to reduce further our emissions", Mr A Raja, Indian Minister for Environment, press conference at the launch of AP6, Sydney, January 12, 2006.

In the longer term, renewables, methane hydrates and "the hydrogen economy" may all make a substantial impact on emission levels.

Even so, all of the currently known low emissions energy technologies might not be enough when it comes to actually regulating the climate system.

The dubious supposition underlying the FCCC's call for action

The central tenet of the FCCC, that climate change (irrespective of its causes) could be redressed by the treaty parties reducing GHG concentrations, was a bona fide value judgment arrived at by a process of negotiation. In this author's opinion, it was, however, based on a dubious supposition.

There was no direct correlation between emissions reduction and climate system improvement as envisaged by the treaty parties.

This is the opposite of the proposition that climate change is occurring and that humankind is one of the causes. The question here is whether the proposed remedy (assuming it could be administered) could actually induce the desired result.

Recent scientific consensus is that further changes in climate are unavoidable.⁴ According to the IPCC 2001 Assessment Report, stabilisation of GHG concentrations would reduce global warming but by an uncertain amount. The problem is that GHG concentrations will continue to rise, even with slowing emissions, because of the long lifetimes of trace gases in the atmosphere. It could take centuries before concentrations stabilise at a "safe" level.

In the meantime, there is still "no consensus on the appropriate portfolio of policies that are required to address global climate change successfully".⁵

It is self-evident that climate change is a multi-dimensional problem on a global scale. On the evidence to date, it is impossible for the parties to the FCCC to do anything on the scale and within the time-frame that they originally envisaged, even if they were certain what policies and measures would work.

It is even more impossible for any country or region acting alone to redress climate change simply by regulating domestic GHG emissions or by implementing domestic GHG emissions trading schemes. Europe's recent awkward experience has also highlighted the risks of poorly designed trading schemes.

This is not to suggest that a wide range of mitigation measures should not be taken against climate change. Nor is it to suggest that measures should be postponed because of lack of scientific certainty. Indeed, there is a stronger than ever imperative to keep all options under the closest of scrutiny and to move ahead progressively with a "no regrets" approach. In this regard, the Pew Center's *Agenda for Climate Action* is worthy of close study.

The scientific community is not to be blamed for any misunderstanding. This is mainly a consequence of a huge number of parties having to negotiate a very difficult international treaty under immense pressure some 15 years ago.

The coming into effect of the FCCC nonetheless has been followed by a long period of poor communications. This has been caused by a strange cocktail of scientific complexity, information overload, some misinformation, considerable over-optimism about some of the solutions, and deep pessimism about what lies ahead.

Some concluding thoughts

The global climate system simply cannot be susceptible to regulation by the manipulation of only one variable, by the reduction of GHG emissions. It is wrong to hold out false hope to people that climate change can be redressed in this way.

From now on, as well as considering measures to reduce GHG emissions, governments should intensify their focus on measures to

⁴ According to the June 2005 joint statement of 11 of the world's leading scientific institutes: "Even if greenhouse gas emissions were stabilized instantly at today's levels, the climate would still continue to change as it adapts to the increased emission of recent decades. Further changes in climate are therefore unavoidable. Nations must prepare for them."

⁵ Few Center for Global Climate Change, *Agenda for Climate Action*, Washington DC, February 2006.

adapt to the inevitable consequences of a warmer global climate. One advantage of adaptation measures is that they can be taken by each nation independently without the need to consider international implications or to consult others (not forgetting that nations with the least resources have the least adaptive capacity and will need assistance from those with plenty).

A worthwhile immediate step for all countries would be to introduce a mandatory system for measuring and reporting GHG emissions. Regulation and trading of emissions could follow after the technical aspects are more commonly understood.

Energy industry participants need to keep a close lookout for domestic regulatory developments that could render traditional energy technologies politically unacceptable and phase them out of business. Germany is a case in point.

Governments and industry should co-operate more closely in both combating and adapting to the impact of climate change. This is the way of the future.

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