
Enough posturing politics. Time to let the experts lead

We can only marvel at the disarray. Here we are, 17 years after the signing of the [UN framework convention on climate change](#), two years after the [decision in Bali](#) to agree a new climate policy, one year after Barack Obama's election, and days out from the [Copenhagen conference](#). Yet a real global strategy to avoid catastrophe remains elusive.

Yes, there is some progress. The Obama administration has now offered [a 2020 and 2050 target on emissions reduction](#). [China](#) and [India](#) have stepped forward with commitments to slow the rise of emissions, and Mexico has tabled creative proposals for climate financing. New technologies offer the possibility of low-cost abatement of greenhouse gas emissions. Through the fog of policy speeches, international meetings and domestic debates, one can begin to see a path to a low-carbon economy.

The mayhem, however, is at least as great. Greenhouse gas concentrations in the atmosphere continue to mount, and will do so for years or decades to come. The Wall Street Journal, America's biggest circulation paper, rails each day against climate science. Backroom deals in the US Congress with industrial lobbies threaten to eviscerate already watered-down proposals for limiting carbon emissions. A vote on the US legislation has been postponed till next spring at the earliest, and a similar bill has just been defeated in Australia.

The truth is that even if we reach a political agreement, we're not yet on track to achieve practical, significant and sustained progress. Whether it's the US debate that ricochets among activists, deniers and lobbyists, or the global debate – which veers between empty agreements and bitter finger-pointing – we've

somehow turned a life-and-death challenge into a scrum. After Copenhagen, which probably will be concluded with a patch-up accord, it will be vital to change paths from the one we've been on essentially since before Kyoto in 1997.

We've debated for years about who should control emissions, by how much, when, and according to binding or non-binding commitments. Yet we can't settle these issues without also getting into the details about the deployment of low-carbon technologies, social behaviours and the quantitative realities of energy systems, transport technologies, food production, water scarcity, and population trends. We will continue to go around in circles until we are much more systematic in bringing scientific and engineering realities to the table. Our negotiations need much greater grounding in our true options and their costs.

These issues are tough and complex. Each nation's plausible choices depend on what technologies will be available and when. It's pretty vacuous to spend a couple of years debating whether the emissions target for 2020 should fall by 20%, 30%, or 40% compared with 1990, or perhaps 2005, without knowing how and with what extra costs and disruptions such targets might be achievable.

We will need, in short, a lot more brainstorming than negotiation, at least until the world's plausible options and trade-offs come into view. When can [low-carbon power plants](#) truly be brought online? When will electric vehicles be ready for mass sales? Will [carbon capture](#) really work and if so, where? Which countries and regions within them have the right kind of geology to store carbon underground, and who is going to monitor it? Dare we advocate a

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massive revival of the nuclear power industry, in a world fraught with nuclear proliferation? During two years of lead-up to Copenhagen, the official negotiations never gave a place for such questions to be posed, much less answered.

Here, then, is a proposal for the post-Copenhagen attempt to square up national and global policies so they add up to something more than more years of empty promises. Let's start by recognising that most of the human-made crisis emerges from a few pivotal human activities: how and what we grow to eat; how we mobilise and distribute energy; how we transport ourselves and our freight; and how we build our buildings and lay out our cities. Each related sector requires its own intensive strategy – to identify the kind of research and development activities, public infrastructure investments and public policy to accompany a positive price on carbon emissions, through permits or taxes. Countries would have a lot to share – for instance in new technological options – and a lot that would distinguish them, according to geography, resource base, development level, and more.

We have spent a lot of time debating the merits of tradable permits versus taxation but have failed to understand that operational policies must go far beyond either instrument. The future of nuclear power, for instance, depends not so much on tradable permits as on issues of safety, reliability, and risks of proliferation or terrorism. Similarly emissions trading may eventually spur the use of carbon capture and sequestration, but only after several such plants have been tried on the public expense, to investigate the real engineering and costs of possible technologies, and the real feasibility of safe, long-term storage in geological sites. The scale-up of solar and wind power will depend on land use choices, the future of the power grid, and the ability to store power.

The costs of these approaches can only be judged after more thorough testing and analysis. Thus the side payments that rich countries will have to make to poor ones to adopt such technologies can't yet be determined precisely. When the EU or any country announces their contribution to the poorer countries in Copenhagen, the number will be pulled out of the hat, and probably far too low. It's past time to do any of the real financial homework.

Perhaps it's no surprise we are stuck. Climate change is the most complicated issue the world has faced. Complex – but not hopeless. It's time to put the expertise at the front table, not to supplant public debate and discussion but finally to inform it. Copenhagen should be the end of negotiation by politicians with technical issues kept in the shadows or ignored. Let's get scientists, engineers and ordinary citizens involved in a true discussion about our common future, and especially the tradeoffs, costs and choices. Together we can prove that our world is still capable of reaching long-range agreements when our children's lives and wellbeing hang in the balance.