

Is nuclear the only solution to our energy problem?



For most of us, it is impossible to forget that we are on the brink of an energy crisis. Even without the threat of CO₂ emissions causing climate change, we are warned that our reliance on fossil fuels is unsustainable, and that we may reach peak oil production within the next forty years. Yet alternative energy sources are as yet inadequate to meet the current demand. As part of the university's 8th Annual Lecture Series in Sustainable Development, Professor David Mackay – Chief Scientific Advisor to the Department of Energy and Climate Change – presented his own 'Roadmaps to 2050' and outlined what he thinks could be solutions to the impending disaster.

Speaking at the Cambridge Engineering Department on 27th January, to an auditorium so packed that many could not find seats, Professor Mackay gave an eloquent and entertaining presentation. His aside about climate change was straightforward and possibly reassuring to some whose confidence had been shaken by the recent 'Climategate' scandal. He pointed out that climate science is not about correlations – which do not imply causality – and that the 'greenhouse effect' is a mechanism that has been well understood since the 1970s. A discussion about media mudslinging also revealed that a quote from a 'Met Office staffer' which was reproduced in many articles was in fact sourced from an internet message board, and that the media are happy to manipulate data so that it appears to disprove theories of anthropogenic global warming.

So how is the energy crisis to be averted? Professor Mackay presented his ideas confidently, but his approach may have come as a surprise and potentially a cause for concern. There were some familiar refrains about turning the thermostat down, and enthusiastic endorsement of electric vehicles. Aside from this however, he did not advocate much in the way of lifestyle change as part of his 'roadmap'. Instead, he focused on how the UK can continue to consume the same amount of energy by exchanging fossil fuels for renewables. Anyone hopeful that this idyll of a green and sustainable future is achievable may well have been greatly disappointed.

Although wind power and imported desert solar power are both promising sources of energy for the UK, these and other renewables require 'country-sized' areas of land to produce significant amounts of energy – and the UK public are notoriously sceptical about wind farms. Professor Mackay is undoubtedly correct in asserting that we need a 'step-change' in our energy production, but by ignoring the possibility of reducing our consumption the need for a large nuclear component to our power supply becomes practically unavoidable. The arguments against nuclear power are compelling – the plants are extremely expensive and energy-consuming to construct and maintain, there remains the risk – however small – of a devastating accident, and there has not been nearly enough research into the long-term disposal of the waste, which can remain hazardous for tens of thousands of years. Many attendees privately expressed alarm that this is the position of so senior a government advisor.

For many, this will not be a satisfactory solution to our current addiction to fossil fuels. Replacing one evil with another should not be seen as the only option. Perhaps what spoke most to this audience member was what remained unsaid – that lifestyle change is a vital part of our future if we are to mitigate the inevitable environmental troubles ahead.

For information on the Centre for Sustainable Development Distinguished Lecture Series, visit www-g.eng.cam.ac.uk/sustdev

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