



UK Government: "energy security and climate change"

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On 5 March 2007 David Miliband MP delivered a lecture titled "***The transition economy: a future beyond oil?***" Full text available [here](#). The 18MB MP3 audio file is available [here](#).

Nice title, so who is he? Miliband is Secretary of State for Environment, Food & Rural Affairs, a senior cabinet position in the Blair Government. He became an MP for Labour in 2001 and was appointed to the cabinet in 2005. At just 41 he's regarded as young for his position and there has even been press speculation he might challenge Gordon Brown for leadership in the summer when Blair steps down.



David Miliband MP

"I believe that energy security and climate change objectives mean the time is right to look at what it would mean for the UK to create over a period of 15-20 years a post-oil economy – a declaration less of 'oil independence' and more the end of oil dependence."

The scientists say that we have 10 to 15 years for global carbon emissions to peak. The economists say that over the same period North Sea oil production is due to decline significantly. The international relations experts say that a world less dependent on oil would be good for global stability. So my starting point is the twin challenges of climate change and energy security: an economy no longer dependent on oil would be good for

both.

Interesting how he cites the economists rather than geologists or oil companies saying North Sea oil is in decline. Could this be because North Sea decline is primarily an economic problem with exports and royalties being replaced with imports and trade deficit expansion?

Core to the lecture is "*climate change and energy security*", positioning them as two different reasons for developing "*a transition economy*" to reduce carbon emissions and increase the productivity with which natural resources are used. His thinking for climate change is clear, citing the IPCC and the Stern Report. Energy security is a concern as:

...many of our coal and nuclear power stations are coming to an end. For years, the UK has been self-sufficient in gas and oil, thanks to North Sea Oil production. In future, we will increasingly depend on oil and gas imports from Russia, Central Asia, the Middle East and Africa. We could be importing as much as 90% of our gas by 2020 compared with around 10% now. So there are plainly dangers of energy insecurity.

That is the clearest description of the UK's energy predicament I've heard from a minister yet. Before addressing common solutions (demand reduction, decarbonisation and decentralisation) he recognises not all solutions are common to both problems. For example coal to liquids is mentioned as increasing carbon emissions.

This is interesting as it implies the problem is not simply "energy security" but **liquid fuel security**. My impression, reading between the lines is that this isn't really an energy security and climate change lecture but rather a peak oil and climate change lecture – constrained by the fact he mustn't mention the P-word! I'll come back to this.

Reducing electricity demand is highlighted before increasing supply, the aim of 20% supply from renewables by 2020 is reiterated, as is the fear that:

Unless we replace our existing nuclear power stations, we will have to increase our reliance on coal and gas, which would increase our emissions.

I would argue that it is unrealistic to suggest existing nuclear can be replaced before the bulk of decommissioning so it's not an option to avoid increased reliance on coal and gas. Miliband suggests carbon capture and storage is the most critical technology for future electricity supply.

Transport is the largest section of the lecture, strange perhaps as it is only responsible for 23% of UK carbon emissions compared with 31% for electricity and runs predominantly on oil where there exists a robust global market compared with electricity which faces coal and nuclear decommissions and indigenous gas depletion for which there isn't a robust market. Again, is this a peak oil lecture in all but name?

The plan for aviation is to bring it "*...into the European Union Emissions Trading scheme at the earliest opportunity. By putting air travel within a cap and trade scheme that has teeth, we will ensure that overall emissions are driven down, within the EU or more widely across the world.*"

Improved car efficiency, biofuels and hybrids are predictably mentioned for road transport but also fully electric and hydrogen cars are described as realistic options in the long term along with this bizarre factoid:

Research suggests that if electric vehicles replaced existing cars, we would need an

I need to check that. According to [DUKES 3.4](#) the UK uses 38,287 thousand tonnes of oil in road transport (2005) and Miliband tells us cars are responsible for 60% of road transport emissions so must use some 23 million tonnes. At 45 megajoules per kg, 23 million tonnes of oil represents 10^{18} joules or 288TWh. This is the primary energy, internal combustion engines are some three times less efficient than electric motors so to make sure we're not comparing apples with oranges the figure should be reduced to 96TWh. This compares with a total electricity supply of 409TWh ([DUKES 5.2](#)) and so represents 23% more electricity.

To get to Miliband's 12% we have to assume electric cars actually use less energy to deliver the same energy service (the transportation). This is actually quite feasible as the electric drive train is more efficient and the vehicle mass can be significantly reduced.

I'm genuinely surprised that the UK's existing car fleet could be replaced with electric vehicles (if they existed) for just 12% increase in existing generation. Bearing in mind charging could be scheduled for off peak times (or when the wind blows or the tide flows), required generation infrastructure would be less. It's an interesting aside – however given the challenges the UK faces in electricity generation – a purely academic one for the time being.



[Tesla Motors](#)

Miliband: "...the Lotus built Tesla has a top speed of over 130 Mph, a battery range of up to 250 miles, and has a lifetime of at least 100,000 miles."

Back to the lecture and Miliband considers Sweden's Commission on Oil Independence.

The primary rationale for the Commission on Oil Independence was to address climate change. For the avoidance of doubt, it was not about protectionism or about a fear that oil will 'run out'. But the commission were also driven by a concern about the impact of oil prices on Sweden's economic growth and employment, by the impact of oil on peace and security across the world, and a desire to gain a first mover advantage in new environmental markets.

This is curious, why does Miliband feel the need for the "avoidance of doubt" sentence? **Thou doth protest too much!** I spoke to Kjell Aleklett (Swedish physics professor and president of ASPO) about this plan last year, he said it was a real victory and ASPO had been key in its inception. It is peak oil inspired, the negative impact of price on the Swedish economy being a nod to future scarcity and high prices. Maybe Miliband is semantically right, it's not "about a fear that oil will run out", it's about a fear of peak oil!

Miliband is to be commended however, this lecture was more radical than I've heard any minister

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make. I believe it is peak oil inspired even though he can't bring himself to say the words and whilst he predictably looks towards (largely inappropriate) technology to provide answers, demand reduction is stated as the number one transformation our energy system needs:

First, demand reduction - radically reducing our energy needs through much greater energy efficiency.

That's quite a statement for an aspirational young minister to make.

Next week Miliband will announce the details of the Climate Change Bill which should establish in law the goal and timetable for becoming a low-carbon economy. It will be interesting to see how the currently planned airport expansion and forecast [3-fold](#) increase in aviation is compatible with this legislation.

Further comments on this lecture are available on [David Miliband's blog](#).



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