



Government doesn't accept imminent peak oil (Part 1)

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That title is no surprise, no serving government minister has spoken on the record about an imminent global oil peak and no government publication (I'm aware of) has addressed the subject. The 2003 Energy White Paper sums up the governments position on oil with this statement:

World wide fossil fuel resources are very large. Oil is the world's most important fuel, accounting for 40% of global primary energy consumption. Its share in 2020 is likely to be at a similar level. Globally, conventional oil reserves are sufficient to meet projected demand for around 30 years, although new discoveries will be needed to renew reserves. Together with non-conventional reserves such as oil shales and improvements in technology, there is the potential for oil reserves to last twice as long. Proven gas reserves would meet at least 45 years of demand and there remains vast potential beyond this. ([Energy White Paper 2003](#))

I know of many people who have written to their respective member of parliament asking about peak oil who have all revived almost identical responses quoting the Energy White Paper.

It should be clear to most Oil Drum readers that the government's assumption is incorrect. That in itself is cause for concern but perhaps more worrying is what being justified and done on the strength of that assumption.

This is the first in a series of articles looking at the decisions and probable mistakes that are currently being made directly due to governments position on peak oil.

First area to consider is **aviation**.

In Dec 2003 the UK's Department of Transport published their aviation white paper, [The Future of Air Transport](#). It claims to:

set out a strategic framework for the development of airport capacity in the United Kingdom over the next 30 years, against the wider context of the air transport sector.

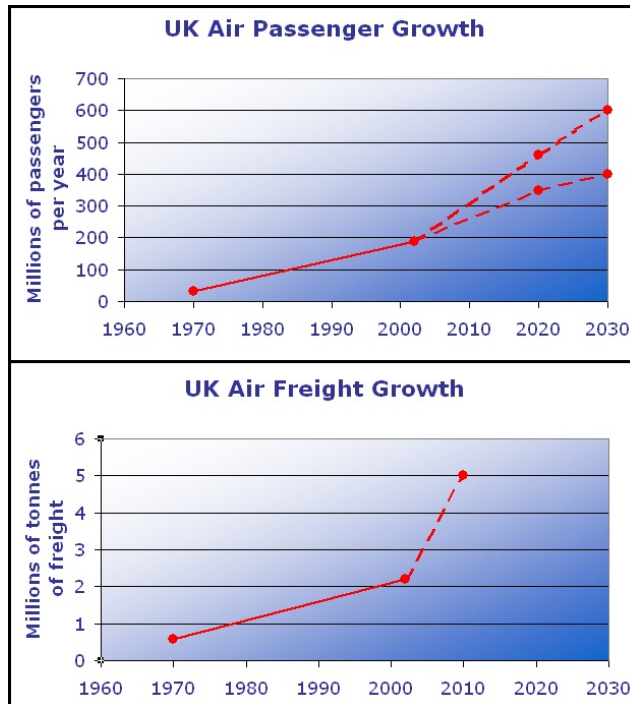
Whilst this government publication doesn't expressly "*authorise or preclude any particular development, it sets out a policy framework which will inform decisions on future planning applications against which the relevant public bodies, airport operators and airlines can plan ahead.*" The paper also claims to "**take account of all relevant factors.**"

This is what the white paper says about the future passenger and freight:

- 32 million passengers at UK airports in 1970, 189 million in 2002, between 350 and 460 million forecast in 2020 and between 400 and 600 million forecast by 2030.

- 580 thousand tonnes of freight loaded/unloaded at UK airports in 1970, 2.2 million in 2002, 5 million forecast in 2010.

These graphs illustrate the magnitude of forecasted growth:



Click image to enlarge.

The whole purpose of this paper is, to set out a strategic framework for the development of airport capacity in the United Kingdom over the next 30 years. These forecasted growth figures are being used to justify airport expansion currently being undertaken, planned or under consideration with costs running to tens of billions of pounds including new runways, new terminal buildings and new rail infrastructure to the airports.

These forecasts are obviously proving to be highly influential so it would be wise to understand where they come from. Why does the government think air travel is going to double by 2030?

They have a model.

The long-term factors driving the increase in future demand for air travel in the UK were modelled using econometric techniques, i.e. statistical analysis of the determining factors using historic data. These factors included future growth in UK and world GDP, increased world trade, declining air fares, and exchange rates.

The white paper goes on to state the following underlying assumptions:

The long-term real GDP growth assumption for the UK used in calculating forecasts was 2.25 per cent per annum. World GDP was projected at higher rates in less developed and newly industrialised countries (such as China and Eastern Europe) than in OECD countries. There were a number of assumptions underlying the input one per cent decrease in air fares per annum between 2000 and 2030. Aviation fuel prices were assumed to stabilise at \$25 per barrel in real terms in year 2000 prices; no major changes were assumed in aircraft technology which might result in reduced operating costs or changes in regional jet use which might reduce air fares; and it was assumed that the market would be increasingly competitive and deregulated.

John Hemming MP asked a parliamentary question dated 7th Dec 2005, what would happen if instead of air fares falling by 1% per year as the white paper assumes they actually held constant at 2005 prices in real terms. The response from Karen Buck (Parliamentary Under-Secretary, Department for Transport) was that the 2020 figure would fall from 401 to 301 million passengers explaining this was based on the simple assumption that a 10% rise in fares would lead to a 10% fall in demand

[Parliamentary Question](#)

Holding a degree in computational physics I know a thing or two about computer models. One thing I know is that no matter how sophisticated the model if the input assumptions are in error the output will also be in error. Garbage in, garbage out. I propose that these three assumptions are in error, that:

- UK GDP growth over the next 25 years will average 2.25%
- Air fares will decrease at 1% in real terms for the next 25 years
- Aviation fuel prices will stabilise at \$25 a barrel in 2000 prices

And I'll admit I don't know about the linear demand-price response, the government does not make a convincing case that future prices falls would be met with linear demand response.

Taking 1% real terms price falls pa (adds growth of 20%), 2.25% growth pa (adds growth of 60%) for 25 years, assuming as they do that the global average growth is higher than 2.25% (it's not only UK citizens that fly through UK airports) and that linear demand-price response produces their forecast of a doubling by 2030. It's that simple.

The assumptions in this white paper are a symptom of government not accepting imminent peak oil, they must be challenged and shown to be in error – this shouldn't be hard to do. The price of oil is the glaringly obvious error, which also influences the other assumptions. Here is a graph of oil prices over the last three years, notice how the daily price (black) has bounced up along the steadily rising 200 day price (blue):



Click image to enlarge.

Over the last two years oil prices were assumed to stabilise a little below their December 2003 level, they have in fact doubled with every indication of continued rises, even OPEC don't expect prices to fall below \$50 whilst Goldman Sachs forecast an average of \$68.50 in 2006 and even spikes over \$100 ([link](#)). With such fuel price rises and fuel being such a large proportion of ticket cost this evidence makes it impossible for ticket prices to continue to fall in real terms. Many airlines have added significant fuel surcharges:

British Airways is to increase fuel surcharges on long-haul tickets bought in the UK for the fifth time in the past 18 months. The increase, taking effect from 12 September [2005], means customers will pay a £30 charge for a one-way ticket - up from £24 -

Oil prices also affect other businesses so if UK GDP growth was assumed to be an average 2.25% based on \$25 oil, \$60 oil must reduce that value. Gordon Brown was recently forced to half his growth forecast down to 1.75% though maintains (likely justified on further flawed assumptions) that growth will increase to 2-2.5% this year and 2.75-3.5% in 2007. [BBC Online](#).

Clearly the underlying assumptions are wrong with no account taken of peak oil, imminent or otherwise, leading to a flawed report which is influencing billions of pounds of expenditure.

The Millennium Dome is often described as a white elephant, that's nothing compared with the acres of empty tarmac we'll have if these plans are pursued. It is clear that the forecasted traffic growth in the white paper is wrong. This should be highlighted and the government retract this forecast so we can stop wasting time and money on building things that don't have a future.

The current position of justifying airport expansion on the basis of cheap oil is indefensible.



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