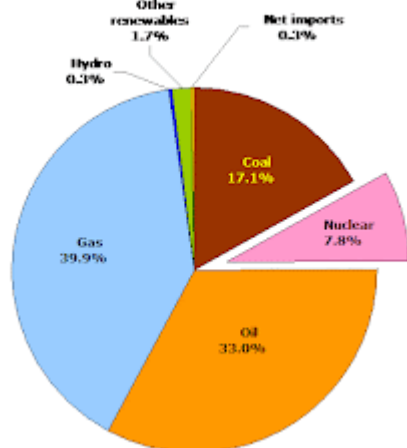


Energy white paper - nuclear muddle continues

UK primary energy by source 2005



On May 23rd we had a new [Energy White Paper](#) and a new [Planning White Paper](#). Both part of the government's efforts to bring forward new nuclear power stations. The new energy policy makes a case for nuclear on energy security and climate change grounds. In fact nuclear dominates the energy white paper and is the unannounced presence in the planning white paper. But this

obsession is out of proportion to the importance of nuclear power in the energy mix - see chart [[data](#)]. The government's [economic appraisal](#) released with the white paper suggests that not much will happen for the next 20 years anyway:

It is likely that the first new nuclear plant could be added by around 2021 [...] A programme to add 6 GW of nuclear new build by 2025 would not increase the total stock of nuclear capacity relative to the current level.

At the heart of UK energy policy there lies confusion and contradiction... let me make some observations:

1. Energy policy is increasingly based on markets - at least in theory

The government has tied itself to the mast of a market based system, in which it decides the incentive structure and rules that make a market framework and private sector actors decide what to do.

Competitive energy markets, with independent regulation, are the most cost-effective and efficient way of generating, distributing and supplying energy. In those markets, investment decisions are best made by the private sector and independent regulation is essential to ensure that the markets function properly.

[[Nuclear consultation p5](#)]

2. Tweaks to markets are needed to deliver on public policy objectives

There are external costs and benefits that are not captured in the transactions

between energy companies and their customers. So markets need to be modified to create rules and incentives that influence private sector investment behaviour.

However, energy markets on their own will not deliver our wider social and environmental objectives, particularly tackling climate change. That is why we have taken action, both at home and internationally to create a framework of incentives, rules and regulations that encourage energy saving and investment in low carbon technologies. [[Nuclear consultation p5](#)]

3. The government wants the market to deliver a particular technology - nuclear

In the white paper the government is a champion for nuclear power believing it to be essential to meet challenges of climate change and energy security. Although the rhetoric has been toned down in order to comply with [legal requirements to have a proper consultation](#), the commitment to nuclear remains undimmed from [earlier bullishness](#)...

It is right that we consider how nuclear power can help to underpin the security of our energy supply without increasing our reliance on fossil fuels. We can meet our carbon dioxide emissions targets, but only if we are willing to think ahead and take tough decisions over new wind farms - and give serious consideration to nuclear power. [[Prime minister writing in The Times, 23 May](#)]

4. But no special treatment will be offered to nuclear

...it would be for the private sector to fund, develop, and build new nuclear power stations in the UK, including meeting the full costs of decommissioning and their full share of waste management costs. [[White paper p17](#)]

5. So the policy is based on 'hope'

The hope is that the incentives in the market and facilitating measures (sensible changes in licensing and planning) are sufficient to cause nuclear power construction to be an attractive investment to financiers and energy companies and that sufficient will be built to meet the government's aspirations. The incentives include normal business like diversification and holding portfolio of technologies to hedge against future uncertainties, the relative prices of coal and gas, the absolute price of gas and the carbon price created by the EU Emissions Trading Scheme. There is nothing in these that will either guarantee nuclear construction or guarantee we meet targets. Gas prices are falling, the market is

throwing up new coal build (suggesting expectations of a low future carbon price), and the ETS rules and caps are uncertain after 2012 (way before nuclear would benefit from it).

The economist Dieter Helm puts it very well in [an excellent commentary on the white paper](#):

Indeed, the dilemma was painfully apparent in the Energy Review's draft statement of need (which has now vanished in the white paper): the first bit says the market will decide (the Treasury); the second bit says that the government believes it will so decide on the basis of fossil fuel and carbon price projections (the DTI); and the third bit says we need new nuclear power stations (Blair).

The unavoidable tension here is that the first and third bits are not compatible: either we need nuclear whether or not the market decides so or if the market decides against, we can live without nuclear. The government of course hopes to avoid this tension by getting lucky, and the industry has done much to encourage this complacency. In the white paper the position is that as a preliminary government view "it is in the public interest to give the private sector the option of investing in new nuclear power stations". And that - extraordinarily - is what all the fanfare about nuclear and the white paper is all about!

What should be done...?

I think the problem is that long term signals for the carbon price are too small and too faint after a more than a few years from now. Emissions targets have been set by the EU for 2020, and this definitely helps - but who would really bet their pension on lofty commitments set by a Council of Ministers that will be long gone when the reckoning is due...? I think we should just establish a carbon floor price of €30 tonne in real terms [a level that would be material compared to variations in gas prices and coal-gas relative prices, and close to estimates [estimates of the social cost of carbon](#)] and make that a commitment for 100 years, with the option only to increase it. It would be implemented as an economy wide carbon tax. Imagine what a clear signal it would send? Much argument would be needed about the use of the revenues and protecting energy intensive highly traded industries (eg. aluminium) - but the answer there is probably global sectoral agreements.

I don't know whether nuclear would emerge from that as a preferred technology, but if it did and if all the concerns about waste, safety and proliferation were

addressed as far as possible and set against the perils of climate change, then I think it would be hard to object.

Articles in the both the FT and Economist have recently made a case for carbon taxes rather than emissions trading:

- [FT - Undercover Economist: Emission impossible 13 April 2007](#)
- [Economist - Editorial - Cleaning Up - 31 May 2007](#)
- [Economist - Survey - Business and climate change - 31 May 2007](#)
- [Economist - Economics Focus - Doffing the Cap - 14 June 2007](#) (added since original post)

I think this has some force, but I think the damage to confidence and credibility from a switch from trading to taxes would be harmful. So use of a carbon tax to do something different to a trading system but important would be a good way forward... a trading system would help meet short term targets (say 1-10 years) in an efficient way and allow linkage to Kyoto mechanisms that channel low-carbon investments to developing countries. A long-term commitment to a carbon floor tax would create predictable 'worst-case' conditions for long term investment and focus for R&D.