



UK Energy Trends, Coal

Posted by [Chris Vernon](#) on July 10, 2006 - 2:10am in [The Oil Drum: Europe](#)

Topic: [Supply/Production](#)

Tags: [coal](#), [electricity](#), [gas](#), [oil](#), [united kingdom](#) [[list all tags](#)]

The [DTI](#) has recently published its quarterly Energy Trends report with data up to and including the first quarter of this year (2006). The report is available for download here: [Energy Trends June 2006 \(pdf\)](#)

The main points for the first quarter of 2006:

- Total energy production was 4½ per cent lower than in the first quarter of 2005.
- Oil production fell by 8½ per cent compared to the first quarter of 2005 as production from older established fields continued to decline.
- Gas production was 4½ per cent lower compared with the first quarter of 2005. Gas imports and exports increased by 44½ per cent and 1½ per cent respectively. These figures reflect the decline of UK gas reserves. Gas demand was 1 per cent lower than a year earlier.
- Total primary energy consumption for energy uses increased by 3 per cent. This was 3 per cent lower when adjusted to take account of weather differences between the first quarter of 2005 and the first quarter of 2006.
- Final energy consumption increased by 2 per cent, with a rises in all sectors: domestic sector consumption increased by 4½ per cent, industrial consumption increased by 2 per cent; consumption in the transport and service sectors were both 1 per cent higher.
- Coal production was 8 per cent higher than a year earlier. Coal imports were 29 per cent higher and at anew record level. Generators' demand for coal was up 17 per cent.
- Coal supplied 18 per cent more electricity than in the same period a year earlier, while gas supplied 17 per cent less. Nuclear supplied 1 per cent less. Net imports of electricity were 31 per cent higher than a year earlier.

Just in case anyone missed it the first time:

Coal supplied 18 per cent more electricity than in the same period a year earlier, while gas supplied 17 per cent less.

Also note this equivalent statement from the previous quarterly report ([link to pdf](#)) covering the fourth quarter of 2005:

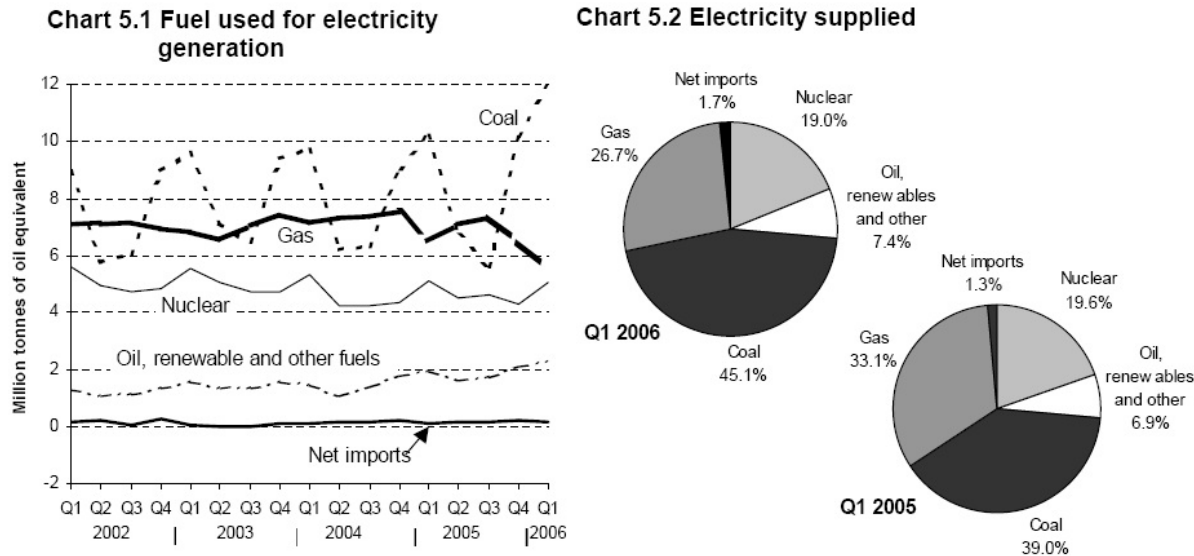
Coal supplied 13 per cent more electricity than in quarter four 2004 while gas supplied 12 per cent less.

This single point jumped out at me. The shift towards coal last winter was truly stunning. I wrote

a lot last summer about how a colder than average winter would create a gas crisis which whilst not affecting domestic gas supplies would impact on industrial users with, in the extreme case, an impact on electricity supplies through CCGT closure. A year ago I didn't believe there was the flexibility for such large shifts in fuel from gas to coal.

The obvious problem here is the impact such increased coal burn is going to have on UK CO₂ emissions figures. Coal produces a little over twice as much CO₂ (~960 grams per kWh compared with ~460 grams) per unit generated electrical output as the natural gas it replaces.

These charts illustrate the dramatic changes taking place with UK electricity generation:

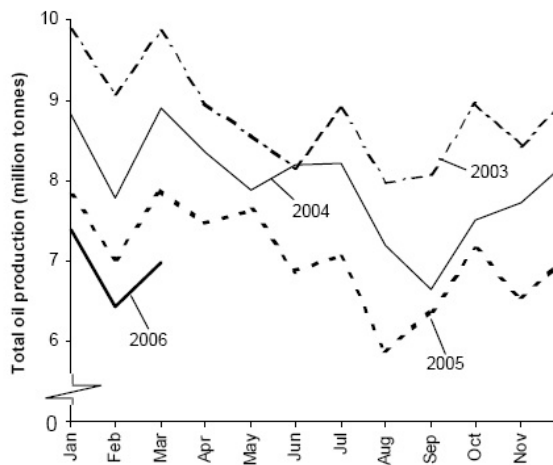
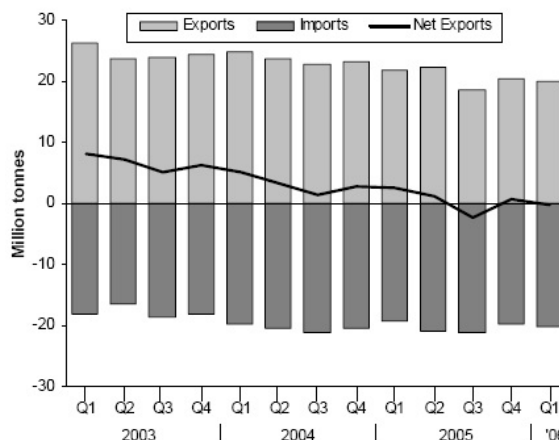


[Click to enlarge.](#)

Also note the 1.7% we import directly from France over a 2GW cable across the channel, basically two of France's Nuclear power stations work for us selling us very expensive electricity. The interesting thing is that in just one year the amount we import like that has increased from 1.3% to 1.7% - a 31% increase!

On Oil:

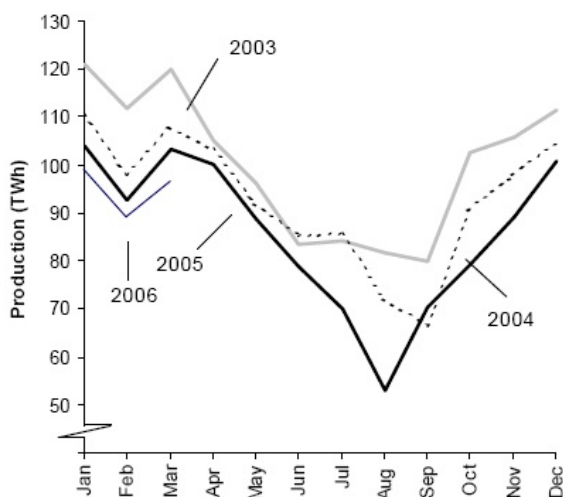
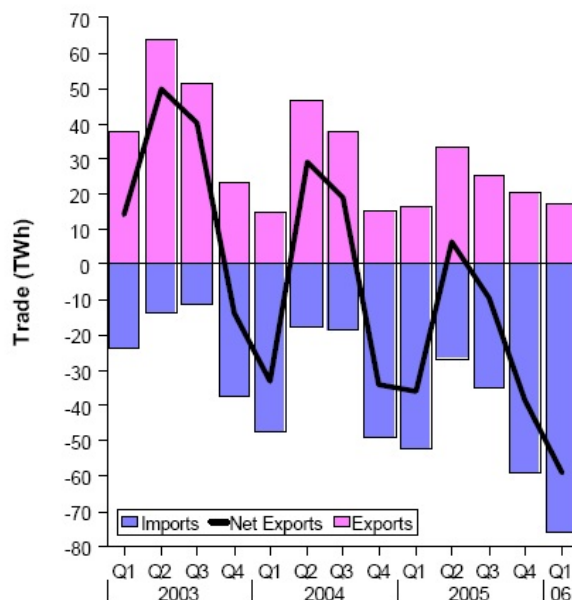
Total UK production of crude oil and NGL's decreased in the first quarter of 2006 by 8.4 per cent (1.9 million tonnes) when compared to the same period last year. In the year ending March 2006, four new fields started production although their relative small sizes are insufficient to make up the general decline in production from the older and larger established fields. The UK was a net importer of oil and oil products in the first quarter of 2006 despite still being a net exporter of oil products.

Chart 3.1 Production of crude oil and NGLs**Chart 3.2 UK trade in crude oils, NGLs and petroleum products**

[Click to enlarge.](#)

On Gas:

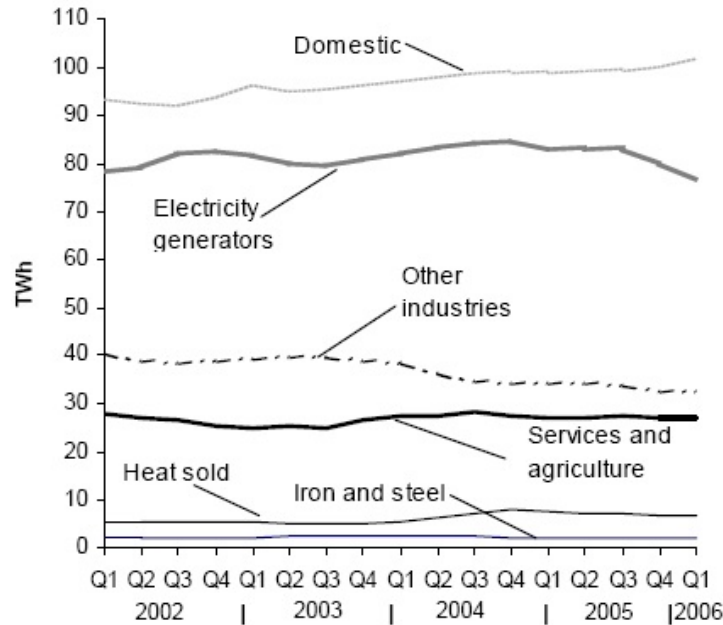
In the first quarter of 2006, gas production was 4.5 per cent lower than a year ago with imports of gas to the UK 44.5 per cent higher and exports 1.3 per cent higher, net imports were 64.6 per cent higher than a year ago. During this quarter, imports of gas accounted for 23.3 per cent of gas available for consumption, compared to 16.7 per cent one year ago.

Chart 4.1 Production of natural gas**Chart 4.2 UK trade in natural gas**

[Click to enlarge.](#)

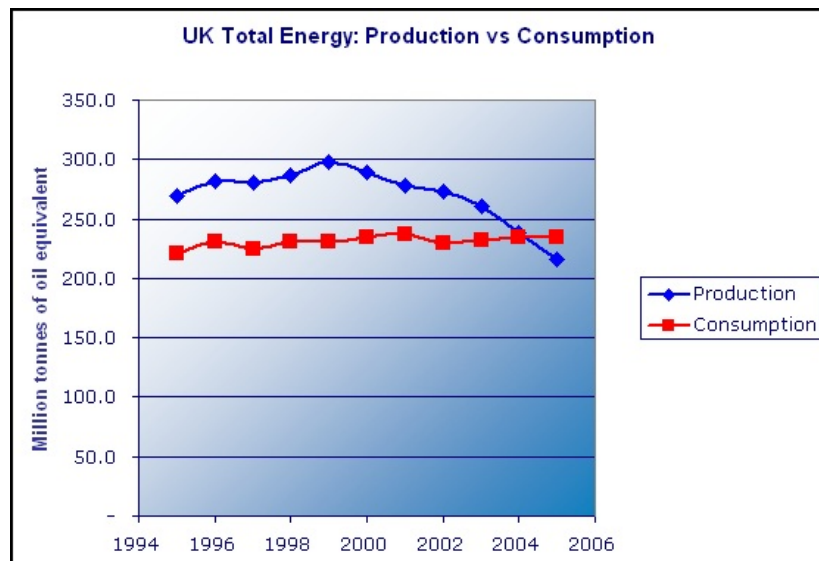
It's interesting to see just where the gas is used, here we can see the recent decline in gas used for electricity generation but interestingly pretty much flat lines for other industrial users:

Chart 4.3 Natural gas consumption - average of four quarter ending



Click to enlarge.

The first article on The Oil Drum UK considered the approaching [energy gap](#), including this high level graph:



Click to enlarge. (Source [Energy Trends 1.1 & 1.2](#))

The situation certainly isn't improving yet still the media aren't talking about it and there is little in the way of national debate. We should receive the output from the Government's Energy Review in the next few weeks; it will be a critical report setting the tone of conversation for the next few years... unless events overtake it with demand failing to be met at reasonable prices.



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