Professor Fells on Energy

"Nuclear Power in the Middle East"
By Professor Fells

I have just returned from a trip to Libya and Malta. The Libyan economy is entirely sustained by its oil revenues, nearly 2 million barrels of oil a day are produced. Eighty five per cent of the population is employed by the government. There are few signs of growing entrepreneurism despite the halting of sanctions, although tourism is just beginning to grow. The potential for tourism is enormous; Leptis Magna and Cyrene are two of the most impressive and important archeological sites in the world, but the necessary infrastructure to encourage tourists is woefully lacking. And a complete ban on alcohol does not help. So oil revenues really matter.

At home oil is cheap; £1 buys 18 litres of petrol, the recent Stern report on the Economics of Climate Change carries little weight here; on the world market crude oil sells at the going rate of $55 to $65 per barrel. But peak oil production will occur in the next few years and thereafter production will decline at around 2 per cent a year and with it the revenue that sustains the economy. Libya could be a great agricultural producer and exporter but this requires water and despite Colonel Gaddafi's Great River Scheme, desalination plant will be required and it will be oil-fired.

In Malta some 60 per cent of water comes from four oil-fired desalination plants; here the requirement is from tourists who demand ever more water for baths and showers.

In both cases it would be sensible to look to nuclear power to replace oil-fired electricity generators and oil fired desalination plant. This would have the effect of reducing carbon dioxide emissions and, in the case of Libya, preserving dwindling oil supplies for export to sustain the economy as it diversifies.

It is not surprising that other Middle East countries are contemplating moving towards nuclear power; Algeria, Egypt, Morocco, Saudi Arabia, Tunisia and the Arab Emirates are all showing interest. The latest designs of nuclear power stations, such as the Pebble Bed Modular Reactor are ideally fitted for the dual production of electricity and desalinated water. The fuel is encapsulated in graphite and this would make the plutonium in the spent fuel inaccessible to would-be bomb makers. Both China and South Africa are building PBMR reactors.

The increased use of nuclear power to replace oil for both power generation and desalination seems eminently sensible but politically risky.

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