

DINNER/DISCUSSION SUMMARY

UK ENERGY POLICY

Held at The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG
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Sponsored by
Department of Transport
Natural Environment Research Council
Office of the Deputy Prime Minister
Science Systems

In the Chair: The Rt Hon the Lord Jenkin of Roding

Speakers: Mr Tony Meggs

Group Vice-President Technology, BP

Professor David Fisk CB FREng

Imperial College and Office of the Deputy Prime Minister

Mr Rob Wright

Director Energy Policy, Department of Trade and Industry

MR. MEGGS view was that of a supplier. Oil and gas were globally traded global commodities with a wide variety of sources with substantial future capacity (60 years of gas in the ground); total energy supply, and security of supply for the UK were not issues. Renewables would be part of the future, but not a major energy supply; they were not commercially viable to that extent. He saw, in the future, gas use growing more quickly than oil; nuclear being stable and renewables a small, but growing proportion. But technical advances would so affect the future that forecasting was problematic – consider the advances in recovery from oil reservoirs – 42% at the start of the Forties Field to an expected 70% now. Turning to the UK, the North Sea was now relatively expensive, but, through global trading, 80% was exported and 65% was imported. Gas was a great success story in reducing CO2 emissions, but in 2005 demand will exceed supply. The infrastructure to import will be built, but it was important that gas liberalization in the EU came into force. CO2 emissions could be managed; there was scope for carbon capture in subsea reservoirs to be significant; solar could be competitive in the residential market in 5 to 10 years, and wind in the wholesale market by 2010.

PROFESSOR FISK said that technical advances in energy efficiency held the key to the future. At present 20% of energy use was managed – largely in industry where cost was important – but 80% was not, because cost was unimportant to users compared with the comfort or prestige energy use gave them.

In other words, for them, energy was a “positional” good. But by, say, 2030, we will have accurate seasonal weather forecasts, we will know that the rise in global temperatures, extreme events and instability are caused by greenhouse gases, and unnecessary energy use will be as unacceptable and unfashionable as fur coats are now. Change should start at the top end of the market and innovation will drive down energy use dramatically. Consider the possibilities in buildings - fibre optics to light interiors, photovoltaic claddings, buildings providing energy storage and managing waste, net metering, superconductivity, etc. Transport opens up a similar range of possibilities. Again one should not be hypnotized by the thought that change can happen only slowly – we now know that everyone needs to be able to move around if an economy is to flourish, and that means not depending on a single fuel source – oil – for movement. So pressure to develop and use diverse fuel sources – gas, electric, fuel cells etc. – as well as to further reduce emission from conventional engines will be strong. The PIU Report underplays the changes in energy use that will come about in the 80% field where, at present, energy use is not managed because it does not adequately recognize the motives driving that use, and the swift changes that innovative technologies can bring.

MR. ROB WRIGHT said that it was hoped to issue an Energy Policy White Paper in early 2003 which would set out the policies that the government would see developing over the next 10 years. The aim would be

to secure a balance between security, the environment, and cost. No easy matter —the tensions between securing diversity, enhancing competitiveness, addressing the problems of the fuel poor, seeking to meet the RCEP target of 60% CO2 reduction by 2050, were obvious. The Government needed to understand what the PIU view that the nuclear option should be “ kept open” meant; think through the transport issues; and needed to look at the forecast increase in the use of gas against the likely constraints in supply which might come about through increased gas use in other countries. There was a strong international dimension in this – EU market liberalization was essential, and the development of an EU trading scheme and sensible directives crucial objectives. Global warming concerns, like energy supplies were global. The UK did not operate in isolation; our emissions were only a fraction of the total and it would be dangerous to risk putting ourselves at a disadvantage to others in dealing with a global problem. Scientific issues such as CO2 sequestration, energy efficiency, nuclear waste, solar PV and wave and tidal renewable sources were seen as core opportunities to be explored. The critical success factors of an energy policy were that it should be coherent, transparent, stable (i.e. it did not need constant government intervention) and deliverable.

The discussion started with a brief analysis by a member of the difficulties lying in the way of achieving RCEP CO2 reduction targets and the dangers of relying so heavily on gas – 63% by 2020, 80% of which would be imported. Trends showed that electricity prices would remain low over the next decade- largely because of existing capacity – with generation fuelled by 80% fossil fuels. Could a competitive market deliver low prices and diversity? Could it ensure security of supply? How were renewables to compete?

A persistent concern in the following discussion was the problems facing the development of renewables on the scale necessary to meet RCEP targets for CO2 reductions, unless nuclear was seen as a major energy source. Investment in renewables would not take place unless the market was there to support it; on the other hand the market would not develop unless there were the goods available at commercial prices. Was government action needed to stimulate the market or support investment ahead of market growth? One member saw a bleak future for renewables, because history showed that since 1810 we had exhausted the ability of land surface to take further use; this view was strongly rebutted by other members who said that the key component in developing renewables was new and innovative technology which made use of natural features, such as sun, waves and wind, which had not hitherto been exploitable. Looking at particular renewables, solar was particularly important because it was by far the largest available source of energy. Its market was increasing but could be further stimulated – it had particular value in remote areas, and there was a

huge export market available for commercially successful technologies. Wind needed, first, proper price signals on electricity generation in order to encourage investment, but second, it needed to be recognized that the best area for exploitation was offshore, as there would always be great planning problems onshore. But offshore development meant persuading the MOD that windmills on platforms could coexist with defence requirements. There was concern that the take up of plants to burn waste for energy had been slow – they solved the problem of an energy source, but also of dealing with waste. Every town should have one – but one must not overlook planning constraints, governed by public suspicion of such plants, and fears of smells and pollution. Biotechnology research had a role to play – the development of new forms of yeast to use waste, and algae to generate hydrogen.

But however much emphasis was put on these renewable sources, the question of nuclear would not go away. While it was asserted that the use of nuclear was inevitable, it had to be acknowledged that the public did not accept this and how to deal with the issue would be a major problem for Ministers in the White Paper. Unless they could conclusively demonstrate, first, that the RCEP target must be met, and, second, that even allowing for the most optimistic rate of growth for renewables and the most sanguine hopes for energy efficiency, it would not be met, then they could not hope to convince public opinion that nuclear was the only solution. The first hurdle could be overcome only by a sustained public campaign, which had not yet started; the second meant proving a negative, always difficult. It was no answer to say that the French did it, why can't we. The French did it some time ago, and it is not certain they could do it now (look at recent developments over Superphenix and nuclear waste) and UK public opinion is not necessarily the same as the French. But the first priority was to find a solution to the nuclear waste problem.

At the back of all development of both conventional and renewable sources of energy lay the growth of scientific and technical expertise and the ability of researchers to exploit and commercialize their work. Did the Government have an adequate policy to promote the development of such expertise in universities and research institutions, and encourage and train researchers in exploitation and deliverability skills? As important, adequate sources of finance needed also to be available.

Sir Geoffrey Chipperfield KCB

The discussion was held under the Foundation's Rule that the speakers may be named but those who contribute in the discussion are not. None of the opinions stated are those of the Foundation which maintains a strictly neutral position.