

## DINNER/DISCUSSION SUMMARY

### UK and the Arctic

Held at The Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG  
on Tuesday 25<sup>th</sup> February 2003

Sponsored by  
**ALSTOM Power**  
**Foreign and Commonwealth Office**  
**Fugro GEOS**

**In the Chair: The Lord Oxburgh KBE FRS**

**Speakers: Mr Graham Fry**  
Director-General, Public Services, Foreign and Commonwealth Office (for Baroness Amos)  
**Dr Dougal Goodman**  
Director, The Foundation for Science and Technology  
**Professor John Lawton FRS**  
Chief Executive, Natural Environment Research Council  
**The Rt Hon Michael Meacher MP**  
Minister of State (Environment and Agri-Environment), Department for Environment,  
Food and Rural Affairs

The invited speakers all stressed the importance of the Arctic to the UK and the impact on the Arctic of decisions made in the UK. In discussion the Government was urged to make a bigger direct contribution to the work of non-governmental organisations pursuing development projects in the Arctic, particularly in Russia. Such projects could have the important incidental benefit of promoting links between UK and Russian scientific organisations. Many Russian scientists were sceptical about the need to take action to control climate change, or gave it low priority in the face of other pressures.

One speaker took the view that the UK had withdrawn significantly from involvement in the Arctic over the last 20 years and recommended that it should join the Arctic Council, even though not itself an Arctic country. It was also suggested that the UK could play major part in the proposed International Polar Year.

The invited speakers drew attention to the sharp impact of climate change on the Arctic. In the discussion it was argued that doing nothing about climate change was not an

option, and cynicism was dangerous. Existing technology was not being applied to the extent that it should, because it was not conventionally regarded as economic to do so. That assessment depended on a discount rate which assumed perfectly substitutability into the future - an unrealistic approach, given that people only had one planet. The economic system treated capital as income, to an extent that made the accounting practices in recent corporate scandals look virtuous.

The scientific understanding of climate change remained incomplete, for example with unexplained cooling in some areas, but that was in the nature of science. The job of scientists was to pick away at the bits of the picture which did not fit the models and find out whether they were evidence of fundamental flaws in the theories or only second order problems. The general picture was sound even if details were wrong.

There was scepticism over the feasibility of closing the gap between energy demand, particularly in the developing countries, and the potential power supply from sustainable

sources. Wind turbines would only work when the wind blew, and in the UK it was intermittent. There was plenty of wind in the Arctic, but the turbines might freeze up. Wind power could be supplemented by solar power, but that too was intermittent in middle latitudes. One speaker called for an engineering solution, using large, low-speed turbines in the estuaries of major rivers to produce the large quantities of power consumed by big cities.

An alternative approach might be to continue to use oil and gas but decarbonise it, before or after burning it, and sequester the carbon. This would be very expensive, but one suggested way to keep costs down would be to burn oil or gas in a power plant, sequester the carbon dioxide and use it for enhanced recovery of oil. Transport electricity rather than the oil or gas.

Attention was drawn to the decision by Finland to build new nuclear power capacity. It considered that otherwise it could not meet its environmental targets. Finland wished to co-operate with other countries over nuclear power. The UK Government, by contrast, took the view that the UK's targets under the Kyoto Protocol could be more than achieved without it, and did not believe that most countries needed to build new nuclear power stations.

It was observed that the Arctic environment was at risk not only from the burning of hydrocarbon fuels but also from its extraction and transportation. The UK was likely to rely increasingly on gas from the Arctic as it became a net importer of gas, and there was a danger of leaks from pipelines. The possible release of undersea deposits of methane hydrates as the sea got warmer, with positive feedback as a result of the methane intensifying the greenhouse effect, was seen as a nightmare. One response to these risks might be to extract methane, including that from hydrates, and use it before it escaped.

The transport of oil from the Arctic presented another hazard. Currently two huge tankers were stuck in ice in the Baltic, and they were single-hulled. Lessons should be learned from the tanker disasters of recent years, and the EU should promote a ban on single-hulled tankers in the Baltic. Against this it was argued that double-hulled tankers could cause worse disasters, because it was more difficult for

surveyors to spot leaks. If oil got between the two hulls a spark could cause an explosion.

Attention was drawn to an apparent contradiction, in that one of the invited speakers talked about conserving the Arctic while another advocated plundering it. In defence it was said that the Arctic had to be put into the international context. The fabric of society ran on energy and oil had to be replaced somehow. The issue was how the Arctic could contribute to the energy supply of the developed and undeveloped worlds. It was better to burn Russian gas than oil because it contained less carbon.

One speaker who had first gone to the Arctic 40 years before wondered how to develop a cadre of young scientists to do the relevant research in the UK. One approach was that of a small charity in the north of Scotland which gave young scientists grants for travel and research. Another speaker questioned whether special funding was needed for Arctic research. The Natural Environment Research Council and other research councils supported the relevant basic disciplines, and the recruitment and training of young scientists were very healthy.

The question was raised how relevant research in the UK could be co-ordinated and integrated. Someone needed to take the lead and put in money. Within the Government a number of departments had interests, and the subject went wider than the remit of any one research council. Research Councils UK could perhaps play a part, and an ad hoc meeting with industry might be a way to get started.

Jeff Gill