science on radio

Burning issues

John Hall

EVEN when we are in the eye of a storm as far as energy resources are concerned, a measure of the seriousness which the BBC attaches to the subject may be gauged from the time slot it allowed Brian J. Ford's assessment of possible solutions, "Filling the Energy Gap", in the series "Where Are You Taking Us?". Radio Four at 10.15 on a Sunday evening is not exactly a prime spot to air a burning issue, especially when it puts a strain on one's loyalties to Monty Python's Flying Circus, which is pitched at a level of concern more appropriate to the tail end of the two-day break. Maybe the non-alarmist conclusion of the programme played a part in its placing; broadly, after examining the evidence, Ford could not forfend remarking that perhaps the Arab induced energy problem was a blessing in disguise. Better to be reminded of the urgent need for energy research by a merely political shutdown than by an actual, *bona fide* exhaustion of the oil, he argued. Which of course is an eminently defensible world view of the situation, though less satisfying as an answer to a Swedish motorist, or a Dutch polythene manufacturer, to whom the distinction between actual and political scarcity must appear academic.

Taking the supra-national view then, the programme pointed up the fact that there is more energy lying around than we know how to use, and once we can shake off an addiction to the destruction by burning of fossil fuels, the sooner we are likely to happen on the technological keys to a hydrogen fusion and fast breeder power strategy.

Evidence for these conclusions was offered by Sir Peter Kent, chairman of the Natural Environment Research Council, and Dr Ian Fell, a fuel technologist working at Newcastle University. The historical basis for the present pretty pass, both men agreed, was that the past cheapness of oil had rendered alternative energy propositions so economically unviable that they had not been adequately researched. A four-fold rise in crude oil prices in one year altered the situation somewhat.

Dr Fell's hopes for the future centred on electrical energy from nuclear fusion; given the technology to contain high temperature plasma, nuclear fusion offered the prospect of all eternity without a worry about energy. Less spectacularly, at least according to present materials costs, the fuel cell might offer a good means of powering traction, given successful research. The Sun, in fact, was held out as the ultimate provider. According to Sir Peter the energy involved in sinking a shaft to tap geothermal sources might require a greater input than could be extracted; and Dr Fell envisaged an expenditure of £1,000 million on a Severn barrage scheme providing 10% of present British electrical requirements. But, free of charge and by courtesy of photosynthesis, solar energy produced an annual equivalent of 100 million tons of coal, largely in the forests of the Third World.

Sir Peter looked for research into ways of taking energy from coal deposits without actually bringing the stuff up in tubs, and Dr Fell asked for work in the pure physics and chemistry of burning, a basic part of energy conversion presently receiving scant attention. Fundamental research apart, simply finding out how to adjust a furnace already in use might effect a saving of 10% to 20%. And on the subject of making the best use of the tools at our disposal, Dr Fell was even hopeful that the current crisis might focus the minds of our politicians wonderfully, so that we should be enabled to emerge, after two or three difficult years, unbowed, if not unbloodied.

One small step

John Gribbin

IT is often said that the best gamekeepers are reformed poachers. On that basis, the choice of John Maddox to present BBC Radio 3's new fortnightly programme "Scientifically Speaking" seemed ideal, as anyone who was a regular reader of *Nature* a year or so ago will appreciate. But unfortunately the possibilities raised by this choice were left unfulfilled, in the first programme at least, and Maddox was heard to be cautiously feeling his way, making one small step forward rather than taking a giant leap into the new lands of broadcasting.

The start of the programme promised well, with Maddox putting over his own view and asking why science should not be popular and whether it is sensible to starve research of funds, and commenting on the passive way the research councils toe the line of government restrictions. Maddox riding these hobby horses is worth listening to and makes a lot of sense. But when it came to putting over recent advances in science, rather than commenting on the politics of science, one of the questions was answered: science lacks popularity, to some extent at least, because it is put over in such a dull way by programmes such as this.

Science is fun, as Maddox is fond of saying. But you would never guess it from this programme. I can find no fault with the choice of subjects (spreading of the Red Sea, Professor R. A. Lyttleton's view on comets, hepatitis B and the possibility of determining the sex of children in advance). Even these exciting subjects, however, came over in the usual interviewer/interviewee format, full of indigestible facts. Maddox is not the best interviewer in the world, and the indigestibility of the facts was compounded by his own difficulties, especially with Lyttleton, who allowed the questioner little use of the microphone.

Comet Kohoutek passed some 7 to 8 million miles from the Sun, said Maddox; actually no, more like 13 million miles, corrected Lyttleton. But, he added, there was one comet that came within a hundred thousand kilometres. Halley's Comet was mentioned—due in 1996 (Maddox) or 1986 (Lyttleton) depending on how carefully you were listening. And summing up this discussion Maddox told us that a space probe sent to the tail of a comet would resolve the dust cloud/icy nucleus argument; wrong again (although this time Lyttleton was not present to correct the error); the probe should, of course, be sent to a comet's nucleus.

The story of choosing a baby's sex offered plenty of scope for fun, none of which was taken up. More interest would have been aroused, surely, by reporting the folk-lore tale that pilots of jet fighters tend chiefly to have daughters, because of the effect of high g on sperm, and asking the experts to account for that in terms of the recent Schering work.

These may be the subjects about which scientists are excited, but you