

buyers contracted with US primary producers for an extra 12,500 tons of U_3O_8 in 1980, but that this was offset by a reduction of 25,600 tons for commitments made under previous contracts.

The survey showed that, despite the current depressed prices, most utilities and producers expect the price of uranium to rise sharply over the next decade; future contracts which guarantee a floor price for any 1 year quote an average of \$75 a pound by 1990.

The drop in uranium demand is blamed on the extended licensing period faced by companies building new reactors, a reflection of increasingly stringent safety requirements and on the substantial reduction in estimates for future demand for electricity as the United States becomes more conservation-conscious, and energy costs continue to rise.

Some business analysts feel that the price of uranium may have bottomed out, at least temporarily. According to calculations by the Californian consulting company Nuclear Exchange Corporation (Nuexco), uranium prices remained virtually constant at \$24 a pound between April and June, and actually increased slightly last month.

However, the slump in prices — and demand — is clearly reflected in difficulties being faced by the uranium mining industry. Some estimate that as many as 4,000 workers, 25 per cent of the workforce, have been laid off.

This decline, too, is reflected in DoE statistics. In another report, soon to be published, the department notes that the uranium mining industry is entering a period of major retrenchment. Having initially planned to spend \$316.5 million on new mining facilities in 1981, for example, the industry now estimates that total spending will be only about \$172 million. Projections for capital spending on mill facilities have dropped even more dramatically, from \$241.9 million to \$99.3 million.

According to DoE officials, several processes are keeping the price of uranium oxide down. One is that many utilities, faced with high interest rates, are selling stockpiled uranium back to producers. Another is that, even though uranium mining has been cut back, production figures are still going up as companies work through stockpiles of ore. Nuexco had predicted a drop of 2.5 million pounds between 1979 and 1980 to about 34.5 million pounds — still about double the amount consumed by the nuclear industry.

In fact, however, production increased by 13 per cent to 42.5 million pounds. Some wastes which have already passed through the mill are being rerun, a way of obtaining more uranium oxide without having to pay for any extra mining. Some industry analysts feel that this will continue, so that even if demand picks up it will not be reflected by an immediate boost for the mining industry.

David Dickson

German cancer research

Politics ousts science

Brussels

The scandal at the German Cancer Research Institute has grown into a national issue. The scientific director has resigned, the administrative director appears to have been removed, the opposition parties (CDU/CSU) have attacked the government and the institute itself is now involved in internecine strife.

The national research centre in Heidelberg is a union of eight institutions centrally administered by the Bundesministerium für Forschung und Technologie (BMFT), with a 1981 budget of DM 79 million (\$1,817 million). The latest scandal began with the appointment of Dr Hans Neurath, born in Vienna, but previously professor of biochemistry at the University of Washington, as the centre's scientific director. The post had been vacant since 1976 and the chief administrator, Bodo Spiekermann, was relieved to have found someone with the qualifications and drive to attempt the much needed reorganization.

The other directors of the centre were not consulted about the appointment and soon raised a storm about the professor's demand that the institute pay for a villa in addition to his salary of DM 167,000 a year. The attack soon broadened to Neurath's qualifications and it turned out that he had in fact previously only been scientific advisor to the University of Seattle.

The centre's director for toxicology and chemotherapy, Professor Dietrich Schmaehl, declared that Neurath could not possibly be sufficiently knowledgeable about cancer research to take over leadership of the centre. Nothing daunted, Neurath set about appointing outside investigators to assess the value of the research projects in hand with the intention of directing resources to the most promising areas. The multidisciplinary, clinically-orientated approach was rejected, and Neurath, with the support of the ministry's director, Wolfgang Spinke, proposed to cut back on activities such as nuclear medicine and chemotherapy.

The zeal with which Neurath set about reforming the institute inflamed the already poisoned atmosphere, the battle amongst the divided researchers spilled over into the press and by May this year it had become a political issue, with the opposition, CDU/CSU, siding with Neurath's opponents and the government defending its appointee who by then had been in charge for a year.

The opposition claimed that the administration of the centre was chaotic and scandalous. By July CDU/CSU was describing the working climate as completely destroyed by internal power struggles complete with the "terrorization of administrative personnel".

On 24 July, Neurath announced that he

had resigned but would explain the reasons for his decision only in September. BMFT also announced that Spiekermann was being withdrawn, and the conflict became an out and out battle between the ministry and the research centre. The ministry now plans to examine the scientific activities of the centre since 1973.

The latest chapter in the saga is the government's reply to the CDU/CSU's accusations in July. It reaffirms BMFT's desire to strengthen pure research rather than to concentrate on already well-explored areas. In addition, the government says it has long been convinced that the quality of the centre's research could be improved and that the routine work carried out runs counter to the aims of the centre. "Internal egoism", it says, has been responsible for the present situation; the attack against Neurath is merely an attempt to divert discussions from the real issues at stake.

Jasper Becker

Productivity by numbers

India, Eastern Europe and Israel stand out as being unusually scientific in the accompanying graph prepared by sociologist Dr Pedro Gonzalez-Blasco of the University Alcalá de Henares, Madrid.

The plot shows the number of scientists per hundred thousand population against gross national product (GNP) per capita in 1967. The box encloses Western European countries. The main trend is for the proportion of scientists to rise at about the third power of GNP per capita — so that scientists are added more rapidly per unit of additional GNP the higher the GNP. However, this may be read in two ways. Are the countries above the trend more effective at creating scientists? Or are their scientists less effective at creating wealth?

Dr Gonzalez-Blasco's plot forms part of the background to a seminar on the state of physics in certain less developed European countries to be held in Istanbul on 4–5 September under the auspices of the European Physical Society.

