

pact, signed in 1969, on the exchange of scientific information. From the start the Brazilians showed the most interest in the nuclear sector, and soon talked about a full fuel cycle, but were not taken seriously. In 1972 the Germans made a bid for the reactors the Brazilians had decided on, but when they saw Westinghouse carry off the first contract they almost gave up. Then, in the spring of 1974, came a request for the full fuel cycle, this time serious. The talks, on which German industry was brought in, were kept secret for a long time.

When it did come out, in the early summer, the news was an enormous fillip for a German economy reeling under bad news. For years, the prosperity of the Federal Republic had been export-led, with booming sales of investment goods abroad balancing out the staid performance of private consumption within the country. In 1975 exports had begun to flag, reflecting the recessions elsewhere in the industrialised world. Of the investment in the nuclear programme planned with the Brazilians, an estimated 12,000 million DM was to be spent in the Federal Republic over 15 years. There was guaranteed work for the 13,000 strong skilled workforce at KWU, plus sub-contracting to 300 or more firms for 80% of the material to be used. But there can be no doubt that nuclear development proper will spearhead a wider commercial breakthrough. There will clearly be a need for steel produced on the spot, and for a range of engineering firms; and around this tremendous source of electric power, fertiliser and chemical plant will proliferate.

Far more than was generally realised at first, the Federal Republic and Brazil have gone into partnership in the business not just of producing nuclear power, but of supplying the kits for others to do the same. The briefest summary of the full range of cooperation arrangements illustrates this.

- a joint company has been set up to carry out prospecting and mining of uranium. A Brazilian state company, Nuclebras, has 51% and Germany's Uran Gesellschaft the other 49%.
- the same Nuclebras will take part in developing the vertical wall enrichment plant, which will be built jointly in Brazil by Steag and Interatom.
- KWU and the specialised company RBU are to build first a pilot plant and then a commercial one for making nuclear fuel elements for Brazilian reactors; and significantly Nuclebras will have 70% and KWU 30% in a separate company set up to market fuel elements.
- for re-treatment of nuclear fuel, Nuclebras will have two German firms

THAT much-publicised proposal to reestablish a science policy office in the White House, announced by President Ford in May, is making glacial progress through Congress, and it now seems certain that the new arrangement will not be in place until late autumn. That would be too late for the office to play much part in deliberations on the 1977 budget and, with the Presidential elections by then in full swing, it may be difficult to persuade a top flight person to head the office for what could be a short stint.

The House Committee on Science and Technology, which is dealing with the proposal in the House, completed hearings on the measure last month, and it is not likely to take any formal action until after Congress returns from its August recess. In the Senate, meanwhile, the proposal has been referred to three different committees, and joint hearings are being planned for September. Congressional staff members concerned with the legislation suggest that it will be at least October before a bill is passed and sent to President Ford.

Ford's proposal, which was formally spelled out in a bill sent to Congress early in June, would establish a small office consisting of about 15 people—a number which was "pulled out of the air", according to testimony given by Vice-president Rockefeller—and a budget of about \$1-1.5 million a year. Although it would be concerned chiefly with helping to formulate Administration policy on non-military science and technology, the office would play a rôle in military matters "when asked".

Congress is likely to give Ford

pretty much what he asked for, although it is likely to stipulate that the head of the office, who will bear the title of Science Adviser to the President, should be approved by the Senate before he is officially appointed. It is also possible that Congress will spell out the office's areas of responsibility in some detail, particularly in regard to its rôle in military science policy making.

During the House Science and Technology Committee's hearings, the proposal was warmly endorsed by several prominent scientists who had long been protesting former President Nixon's decision, in January, 1973, to scrap the White House science policy arrangements established by President Eisenhower. Having persuaded President Ford to reverse his predecessor's decision, however, the proposal's supporters have won only half the battle—the other half is to ensure that the arrangement is used effectively when it is in place, and that may be more difficult.

● Echoing warnings issued in a recent report of a committee of the National Academy of Sciences, the Geological Survey, which is part of the Department of Interior, pointed out last week that the United States is becoming increasingly dependent on imports of several important minerals. The survey urged that a national policy aimed at conserving scarce minerals and substituting others in some uses, should be adopted. By the year 2000, the Geological Survey predicts that the United States will be completely dependent on imports for 12 commodities, more than 75% dependent on imports for another 19, and more than 50% dependent on imports for a further 26 commodities.

acting as partners: KEWA and UHDE.

● only the first two reactors of the eight planned are to be delivered on a turnkey basis by KWU, with work starting on one in 1976 and the other in 1978. Nuclebras and KWU are going 75-25 in a nuclear engineering company, while the Austrian firm Voest takes part in a nuclear components company.

If there is thus a vast commercial pay-off for the Federal Republic, there is also a longer-term advantage of capital importance. The Federal Republic will have guaranteed access to uranium—and a guaranteed source of enriched uranium just at the time the squeeze starts operating. This means escaping from the present dilemma of having to rely on either the USA or the Soviet Union to provide the enriched uranium. The uncertainties of this were underlined earlier this year

when supplies to the European Community were halted without warning or consultation, formally because of inadequate security. US pressures on economically sensitive areas like this are ill-received even by such loyal "Atlantic" partners as chancellor Helmut Schmidt—and the calls on the Federal Republic to drop the Brazilian deal tended to confirm the suspicions of those who had opposed German signature of the Non-Proliferation Treaty on the grounds that it would be used by US interests to hinder the Germans on world markets.

Thus the German-Brazilian deal is another step towards a changed pattern of world influence in terms of economic, commercial and technological weight and independence. The strongest of the western European industrial countries has linked hands with the country which is potentially a "first-league" member. □