

CANADA

Add minister

The Canadian cabinet has a new science minister. David Spurgeon reports from Ottawa

CANADIAN scientists are once again feeling hard done by as a result of a federal government cabinet shuffle. Hugh Faulkner, Minister of State for Science and Technology since 1976, has been shifted to the portfolio for Indian and Northern Affairs, and a new science minister, J. Judd Buchanan, appointed in his place. He is the fifth minister to have been appointed since the ministry was established about six years ago.

Grumbling was also heard when Faulkner was appointed just two years ago. But in his short time at the post he earned the respect of many in the scientific community by his obviously sincere concern, his interest in the field and his desire to learn. He did not come to the ministry with what many scientists felt was the ideal background. He nevertheless took time to listen, and many scientists feel they have now lost an ally if not a friend. All Faulkner's homework will now go for naught, and Buchanan will have to start over again.

The shift is still more galling for the scientists inasmuch as it indicates once again that the federal government does not take science seriously. For apart from Buchanan's own lack of familiarity with the field, the task becomes once more a part-time concern of its minister. When C. M. Drury held the portfolio, he also held that of Public Works.

Buchanan will now revert to that arrangement, but he'll have even less time than Drury to think about science because his job has been as a sort of 'lieutenant' for the Liberal party in Ontario. Buchanan went from the ministry of Indian and Northern Affairs to the less onerous Public Works portfolio before coming to Science and Technology in order to have time for these political duties. Now some are wondering how he is going to deal effectively with all three areas.

Some very senior scientists, indeed, are beginning to question the usefulness of a system that depends on firm and effective communications lines being established between a minister and the scientific community, and then breaks these lines with impunity just when they have become established. Perhaps the new minister will be able to prove they are wrong, and that such a system can work well after all. It is a heavy responsibility. □

WEST GERMANY

Solar sell

Werner Gries reports from Bonn on state support for energy research

WEST GERMANY'S support for energy research developed a stage further last month with the announcement from the federal Minister of Research and Technology, Hans Matthöffer, of a large programme of support in the field of solar energy. The federal government has supported research into direct and indirect utilisation of solar energy since 1974, and the new programme, *Technologies for the Utilisation of Solar Energy*, makes available a total of DM166 million over the four years 1977-80 to supplement expenditure by private industry.

Some 76% of the country's total energy requirement goes on heating, and 24% for lighting and power. Space heating alone absorbs 40%, mainly through burning mineral oil. Solar energy is therefore important because it can be used for such low-temperature purposes as hot water supply and heating in residential buildings; but its low intensity and its variability mean an efficient technology is needed. Solar radiation per square metre in Germany is only half that in the USA.

The government's measures to promote solar energy hitherto have extended to 50 projects, requiring a total contribution of DM50 million of government money. Chief of these have been the development and long-term testing of novel types of solar collectors. At the same time mass production processes for solar collectors are being developed and a few demonstration plants both in public installations as well as in the private sector have been built with government funds.

Results so far show that it is technically possible even in West Germany to satisfy fully the heating requirements of a well insulated single-family house with solar energy. The necessary systems and appliances are already being offered on the market but the financial outlay is so high that it does not pay to put them in at present. Therefore, in addition to their R&D measures, the government introduced at the beginning of September a programme to encourage energy-saving investments. This grants allowances of 20% of installation costs for insulation, heat pumps and solar appliances.

The conversion of solar energy for purposes other than low-temperature heating has lower priority, but the federal government is promoting R&D in electricity generation to open up new export prospects for German in-

dustry in countries which have plenty of sun. Solar collectors for hot water supply will receive support in the future. Private investment will be rewarded by allowances, model public building measures will explain the new techniques, and standardisation of the most favourable appliances will have an important place in government promotion measures. But the extension of solar installations for space heating depends on the development of energy storage systems, and R&D in this area is being intensified. Solar engineering systems for heat production up to 200 °C are another important focus of research, and the government is making funds available for demonstration plants to show their practical application.

In another trench on the energy front, meanwhile, discussion of the advantages and disadvantages of breeder reactors and the risks attached to them is becoming more heated, notwithstanding the recent unexpectedly quiescent demonstration at Kalkar, the site for a 300 MW prototype breeder. A recent court judgment called into question the construction of the reactor when the judges requested the Federal Constitutional Court to inquire into whether the building of breeder reactors is consistent with the law as it stands at present.

Arguments have persisted in parliament. The Minister of Research and Technology is responsible for financing the development of breeder reactors, and he has given the Bundestag a detailed account in support of breeder development. A total of DM3,000 million has been distributed by the state for research work in this field, annual expenditure is running at DM470 million, and 8,000 people are employed in research, development and construction. Development is marked out up to 1982 with the prototype at Kalkar and the Franco-German *Superphénix* in France.

Though the idea is being aired of severely reducing breeder reactor development to no more than a minimum, the minister has come to the conclusion that cutting the building work on the prototype would cost just as much as terminating it. Many contracts have still to be fulfilled and high social costs would accrue in paying off workers and paying the stipulated penalties for the co-partners in Belgium and the Netherlands. The government maintains that plutonium presents no unjustified risks, contending that the technology can be mastered and that the potential danger is no greater than with a lot of other materials. □