

37% (\$238 million) and experimental development 35% (\$229 million).

Socio-economic objectives groups accounted for intramural expenditure as follows, assuming all expenditure in the business enterprise sector to be in the economic development group: economic development 59%, advancement of knowledge 26%, national security 9%, and community welfare 6%. These and other broad figures quoted are broken down into fine detail in Project SCORE's publications.

As a percentage of GDP, Australia's GERD (natural sciences only) was in the middle rank of OECD's 18 member countries for the calendar year 1973. Australia's figure, adjusted to that year, was 1.2%, compared with the USA

2.3%, UK 2.1%, Germany 2.0%, Netherlands 1.8%, Japan and France 1.7%, Sweden 1.6%, Belgium 1.3%, Canada and Norway 1.1%, Austria 1.0%, and New Zealand 0.9%.

Changes in Australian R&D expenditure in the five years from 1968-69 to 1973-74 are difficult to quantify because of the changed criteria. Project SCORE's published figures for 1968-69 put total GERD at \$334 million, approximately half the 1973-74 figure of \$651 million without taking inflation into account. If compared at constant prices, GERD has increased about 35%, but when measured as a percentage of GDP, the GERD figures are closely comparable.

The relative financial support of

Australian R&D has remained fairly static over the five-year period between comprehensive data collections and analyses. The figures thus support the general contention from more superficial indicators that neither the Liberal nor Labor governments of recent times gave significantly more or less attention to science than to other areas of government finance. Using the superficial indicators for the period since 1973-74, it is at least certain that the relative standstill position has been maintained, and quite likely that there has been a significant slippage. For example, it is believed that the number of staff engaged on industrial R&D has dropped by as much as 40% over the two years from 1973-74. □

IN BRIEF

Gloomy energy report

In a sombre analysis released last week of projected global energy supply and demand to 1985, an OECD publication, *World Energy Outlook*, warns of a likely shortfall in oil supply that will mean either higher prices or shortages or both. The report, calling for a "transformation" and "revitalisation" of energy policies in industrial countries, urges them to increase indigenous energy production and improve conservation through a combination of financial measures, including investment incentives and use of the price mechanism, and regulations, embracing direct and indirect conservation measures and relaxed environmental requirements.

Brazilian deal developments

Reports in Brazilian papers suggest that Brazil is determined to resist pressure from the United States to change the terms of its controversial nuclear deal with West Germany. There are also signs that Argentina, which has its own nuclear ambitions, is proffering support for the stand. The reports follow others in the Brazilian press indicating a possibility that the US might consider supplying Brazil with nuclear fuel if it gave up that part of the German deal which includes both enrichment and reprocessing facilities.

The US Vice-President, Walter Mondale, apparently urged West Germany to restrain sales of nuclear technology when he visited Bonn last week as part of his diplomatic tour of key western capitals, and the possibility has emerged of including tighter curbs on trade in sensitive technology. Nothing specific was disclosed regarding the Brazilian deal, however.

Brazil has not signed the nuclear Non-Proliferation Treaty, and although the deal is permissible under the treaty,

it is hardly in keeping with President Carter's intentions in the field of international trade in nuclear technology.

Safety bodies established

The UK Health and Safety Commission has announced the establishment of two more bodies which are to be part of the advisory committee structure that will help it discharge its obligations under the Health and Safety at Work Act. One is the Advisory Committee on Toxic Substances, and will be chaired by the Director of the Health and Safety Executive's Hazardous Substances Division; committee members include four with relevant expertise and the CBI and TUC have each nominated four. Attention will focus on new chemicals, but not nuclear materials, which a new committee to replace the Nuclear Safety Advisory Committee will examine.

The other committee is the Advisory Committee on Dangerous Substances, to be chaired by the Executive's Deputy Director. This will concern itself with flammable and explosive substances, and includes three expert members as well as three each from the CBI and TUC.

A third committee, the Medical Advisory Committee, is already functioning, and one of the approximately 18 industry-based bodies, for agriculture, is also in operation.

Finland nuclear report

Finland should put a sharp brake on its nuclear energy plans, says the report of an energy committee under the leadership of the Finnish Minister for Trade and Industry, Arne Berner. Finland's shaky economic situation demands that investments should be confined to projects which will increase employment and the development of exports, rather than to nuclear power;

instead of the string of reactors which the government had thought of building around Finland's coast, the committee suggests that no new reactors should be built before 1985. If more energy is needed before then, it should come from non-nuclear sources and problems connected with nuclear energy should meanwhile be studied more closely.

Finland has four reactors under construction, at Lovisa and Oikiluoto, and the first is due to be loaded in a few months' time. By 1985 it is expected that they will be producing about 14% of the country's total energy consumption. Water power will supply about 23% (30% last year), with most energy continuing to come from oil, coal and peat.

There has been no general public debate about nuclear energy in Finland as there has been in Sweden, although groups living near the reactors have protested. The committee's report offers them no comfort. If Finland does build more nuclear power stations, it says, they will probably be sited near the existing ones.

Budgets announced

The 30-member Executive Board of the World Health Organisation last week recommended a budget for WHO activities in 1978 of \$165 million. The World Health Assembly will consider the proposal at its 30th session in Geneva in May.

The Council of the European Space Agency, meeting in Paris, approved programme budgets for 1977 last week of 481.1 million units of account, some 3 million down on those proposed. The programmes include Aerosat, Ariane, Marots, Meteostat, OTS and Spacelab. The Ministerial Council holds its first meeting later this month and will discuss the level of resources for 1978-80.