

UK public spending

More money for industry

THE British government is putting its money where its mouth is. The annual estimates of public spending for the next three years, published last week*, record an increase of spending on industrial research and development next year by close on 40 per cent, from £158 million to £218 million. Most of the extra cash will go on the Department of Industry's programme of support for information technology, production engineering, computer-aided design, microelectronics and fibre optics.

These developments have been well advertised by government spokesmen in the past year, although the size of the budget increase is a surprise. But the total of £218 million has also to support laboratories run by the Department of Industry, the National Physical Laboratory, for example. On past form, the bulk of the extra money will be spent on grants to industrial companies.

Elsewhere in industrial research and development, the British government hopes to economize. While aerospace will get an extra £3 million (to a total of £33 million), the cost of space research and development, chiefly the Department of Industry's subscription to the European Space Agency, will fall by the same amount. It is also planned to save about £11 million (in a total this year of £263 million) on energy research.

Support for academic science is broadly that forecast some months ago. The research councils will have £436 million to spend in 1983-84, together with £81 million on capital projects. This budget includes the extra £4 million found for the British Antarctic Survey. The government document also says that the extra £10 million to be found for support of the natural sciences will not be available until 1984-85.

Those who look to the published spending plan for a forecast of how the universities will be dealt with after the present contraction will be disappointed. The capital expenditure of British universities is to be pegged at £120 million a year for the next two years (beginning on 1 April),

unchanged from this year and last. The recurrent budget of the University Grants Committee for 1983-84 represents an increase in cash terms by 5.2 per cent to £1,320 million, including a special supplement of £12 million (rising to £30 million in 1985-86) for new posts in universities.

The budget statement seems to accept that the "present phase of contraction" in higher education will not be complete by the beginning of 1984-85 (as originally intended for the universities) but only "during" that year.

For the rest, the annual expenditure statement is as usual a poor guide to what the government will be spending on science and technology. Provision for defence research will be known only when the Defence Estimates are published next month. Next year's research spending by the Department of the Environment is lumped together under "central and miscellaneous services" for which £113 million is allocated.

The statement does, however, vividly illustrate some of the British government's present preoccupations. It is, for example, planned that next year's capital investment of £6,904 million will require the government to supply £2,625 million, the bulk of this to the National Coal Board and British Rail. The electricity industry, on the other hand, is reckoned to contribute to this capital sum to the tune of £300 million (at electricity consumers' expense), while British Telecom is intended to finance a capital programme of more than £2,000 million out of current revenue.

Economically, this policy seems forced on the government by the obdurately high proportion of the Gross Domestic Product (GDP) consumed by public expenditure (23.5 + 0.5 per cent) in the past five years. In the still current financial year, the gross cost of servicing the national debt is estimated as 20 per cent of GDP, giving total public expenditure equal to 44 per cent of GDP for the year. □

*The Government's Expenditure Plans 1983-84 to 1985-86 (HMSO, Cmnd 8789-I & II, £5.10 & £9.75).

Recent and future spending on higher education (£ million)

Recurrent	1981-82	1982-83	1983-84	1984-85	1985-86
Universities	1,036	1,253	1,320		
Direct grant	82	95	97		
Polytechnics	487	547	560		
Student awards	891	762	769		
Sub-total	2,496	2,657	2,746	2,850	
Further education	813	892	877	890	
Adult	73	81	65	70	
Capital					
Universities	120	120	120	120	
Other	90	82	74	70	
Total	3,592	3,832	3,882	4,000	4,150

US national laboratories

Materials centre plan from LBL

Washington

THE Lawrence Berkeley Laboratory (LBL) in California last week entered the contest for the national laboratory with the most indispensable role by unveiling plans for a \$138 million National Center for Advanced Materials (NCAM). The centre, due to open its doors in 1989 if Congress approves a 1984 start on construction, represents a change of direction for LBL. According to the laboratory's director, David Shirley, the centre would eventually involve one-quarter of LBL's staff of 2,500 full-time employees and \$30 million of its \$140 million annual operating budget.

Initiatives such as NCAM have become more frequent as the role of the national laboratories has come under increased scrutiny by Congress and the Administration. The national laboratories' efforts to develop indispensable functions have at times reached absurd proportions, as in the recent fanfare that accompanied Argonne National Laboratory's establishment of a national centre for coal reference samples.

LBL's plan, however, comes with a strong endorsement from White House science adviser George Keyworth, and it is a centrepiece of the proposed 1984 budget for the Department of Energy (DoE) general sciences programme. Congress is being asked to approve \$34 million with which to begin construction this autumn. The heart of the new centre will be a "next-generation" synchrotron radiation source, associated with which will be three laboratories, covering advanced materials synthesis, surface science and catalysis and advanced device concepts.

Although most of the operating funds for the centre will come from DoE, Shirley stresses the importance of close collaboration with industry. Shirley says the goal of NCAM will be to conduct basic research in fields "just on the horizon for America's high-tech industry".

While acknowledging that LBL's shift to materials science will entail phasing out other research areas, Shirley said that the laboratory's highly-respected high-energy physics research would be spared.

Shirley says he believes that the NCAM proposal will be well received in Congress, particularly as it addresses "institutional problems" that Congress has been concerned about. "We hear a lot about how Japan and Europe are getting ahead of us in high-tech areas", he says, "and we hear a lot about the reasons, too — that their industry, universities and national labs work together". Noting the close ties LBL already has with the University of California, Shirley says NCAM is a serious effort to do the same in the United States.

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