Australia's researchers seek a break from reform

Canberra

THE pace of reform is causing problems in Australia's higher education system. Since the Minister for Employment, Education and Training, John Dawkins, issued a policy paper last December, institutions of higher education find they must concentrate scarce research funds in areas where they possess special expertise, and where they can serve the nation's economic needs.

The old system of distributing funds according to an institution's student enrolment and educational status has gone and, along with it, the Commonwealth Tertiary Education Commission. A new body, the National Board of Employment, Education and Training, directly answerable to Dawkins, is now responsible for giving out funds, through its sub-council, the Australian Research Council (ARC). An increasing proportion of those research funds will be given out through competitive bidding based on an institution's "educational profile". The profile is intended to set out the institutions' strengths and explain how they can best serve national priorities. A problem is that the government has so far identified only marine science as an area of priority.

Although ARC was originally conceived of as a statutory body within the Department of Science, it will now be instrumental in carrying out Dawkins' reforms. Its newly appointed interim chairman (and, so far, sole member) is Professor Don Aitkin, a political scientist at the Australian National University. He says that to expect the government to find the extra A\$50 million which in the Australian Science and Technology Council (ASTEC)'s view the ARC needs to be effective is unrealistic as "Australia slides into debt at \$1,000 million per month".

But another of Dawkins' reforms will provide him with an opportunity to find A\$30 million a year for the next three years. The current difference in level of funding between universities and colleges of advanced education is to disappear, and the extra funds that are now provided for universities are to be put up for competitive bidding.

With himself as the only member of ARC, Aitkin is concerned that there will be delays in getting the reforms off the ground unless Dawkins appoints the rest of the council within the next few weeks. The budget is due in July and the council needs to provide guidance to institutions so grant applications can be finalized before then.

Another important question still unan-

swered is who is to set Australia's research priorities. According to Aitkin, ARC, as the grant-giving body, will be the final arbiter.

Another candidate for the job is ASTEC which was established to advise the prime minister directly on matters of science, technology, and their effects on society. ASTEC is going through some changes. It has a new chairman, Professor Ray Martin, a research chemist who was vice-chancellor of Monash University in Melbourne until last year. And for the first time since its establishment, ASTEC is not working on any specific investigation for the prime minister. According to the secretary of ASTEC, Dr Greg Tegart, "Ray Martin has a clean slate". Martin wants ASTEC to play a role in setting Australia's research priorities.

Those priorities are certain to centre on aiding Australia's manufacturing industries. Department of Trade figures analysed by Tegart show that Australia lags far behind countries like Sweden and Norway in its volume of exports. With only sluggish growth expected in mineral and agricultural exports, Australia must turn to manufacturing.

Dr David Widdup, executive director of the Federation of Australian Scientific and Technological Societies (FASTS), doubts the ability of government to predict which areas of science and technology would be Australia's best bets and would prefer industry set priorities. He proposes that a one per cent levy be made on sales of manufactured goods and industry decide what research the money should be spent on. He believes the system has already worked well for many years in the coal, wool and wheat industries.

The government hopes that Australia's largest research body, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), will come to the nation's rescue as it has in the past, by acting as an engine to drive the growth in manufacturing that Australia needs.

CSIRO has just been through a major restructuring that resulted from a major report on it by ASTEC. According to CSIRO's chief executive officer, Dr Keith Boardman, restructuring was necessary to restore the balance between basic research and applied research. Basic research had been too much favoured.

But scrapping of CSIRO divisions and a shortage of funds has left morale low through much of the organization. CSIRO divisions are now expected to find 30 per cent of their budget directly

Living off the Earth

Washington

ALTHOUGH there are plenty of practical problems plaguing the US space programme, at least one US congressman believes that spiritual revitalization is also needed. To that end, Representative George Brown (Democrat, California) has introduced legislation that would establish human settlement of the space frontier as a long-range national objective, a goal he hopes will rekindle the national enthusiasm for space that helped to propel the Apollo lunar programme.

Extending human activities beyond Earth orbit has already received White House blessing in the new space policy signed by President Reagan in January (see *Nature* 331,550;1988). But most of the discussion about a national space policy has focused on shorter-term questions, such as whether to build the proposed permanently manned space station, or how best to reintroduce expendable launch vehicles to the US fleet.

Brown says the lack of long-range planning has contributed to the malaise that now afflicts the US space programme. The National Aeronautics and Space Administration (NASA) has begun to give some thought to returning to the Moon, or perhaps planning a manned mission that would go directly to Mars. His legislation would move such activities out of the back corridors of NASA headquarters and onto centre stage.

Some serious thought is being given to permanent communities off the Earth. Space Biospheres Ventures, a private company in Oracle, Arizona, is developing just such habitats. In January 1990, 8 people will enter Biosphere 2, an enclosed structure covering more than two acres with a volume of some 5 million cubic feet. Inside there are a variety of biomes; a wilderness area, a tropical rainforest, a savannah, an ocean, salt and freshwater marshes and a desert.

from industry. According to Dr Graeme Caughley of the Division of Wildlife and Ecology, the division's budget has fallen 5-10 per cent in real terms each year for several years. Operating expenses cannot be cut further and staff layoffs will be the only possibility if further cuts are made. By its nature, much of the division's work has no appeal to industry, unless perhaps to the timber industry, whose money, Caughley professes, his colleagues would hesitate to accept because of a possible conflict of interests.

Boardman summed up CSIRO's position with the statement, "What we need now is 3-5 years of stability".

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