Monday, 11th December 2006

Public Support for Science and Innovation
Productivity Commission
PO Box 80
Belconnen
ACT 2616

Attn: Roberta Bausch

ANZAAS [The Australian and New Zealand Association for the Advancement of Science – founded 1888] would like to commend the Productivity Commission on its very detailed and well argued Draft Research Report on 'Public Support for Science and Innovation' and is particularly pleased with the Draft Finding 1 which strongly supports the continuing provision of public funding.

However, there are a number of matters on which ANZAAS would like to comment.

1. Public Support for Science and Innovation

For purposes of the report, 'support' has been interpreted as 'financial' support through public funding. However, there is also a question of public support for the concept of funding, without which governments could not provide the substantial funding from budgets for which they currently make provision.

Science underpins a great deal of modern life, and a great many issues on which politicians are required to make decisions have a large scientific component. [GM food, stem cells, nuclear power and water supply are current examples] In addressing these complex issues it is important that both politicians and the public have some understanding of the science involved. As part of achieving this understanding it is necessary that the public have confidence in the scientists and scientific institutions providing advice.

In both Europe and North America there is, despite the benefits on which we all rely, a growing anti-science movement [manifest, for example, in Europe by

unquestioning opposition to GM agriculture]. There are indications of similar sentiments in Australia, but to nowhere near the same extent. One of the reasons for the greater support for science in Australia is the very high public confidence in the reputation and independence of major government scientific institutions – most notably the CSIRO, but also state based agricultural research organizations. The national icon status enjoyed by the CSIRO is, we suspect, globally unique.

It would have adverse consequences for good governance if the high level of public confidence in public science were in anyway diminished because of concern that pressure to achieve commercial returns had compromised the independence of the organisations concerned. So far this has not occurred, but we would, for example, indicate some concern that the practice of government agencies [or arms of agencies] acting as subcontractors in the preparation of environmental impact assessments might be perceived as limiting the ability of the agencies to provide independent impartial advice to government during development approval.

2. The Research Quality Framework

It is important that there be public accountability for the funding of research, so that measures to assess the outcomes of research (in terms of quality and impact) are required. However, we would endorse Draft Finding 11.1 that there is a need for caution. It is ironic that Australia is about to embark on an RQF at the very time that the UK is drawing back from the RAE [on which the RQF is based]. The RQF will be expensive to administer, but it is likely that much of the data is already in existence and that simple but effective metrics could be derived much more cheaply.

However, the caution you have urged is unlikely to be exercised as the Government has given a firm commitment to proceed. This has created what may be an undesirable outcome – a transfer market until the March cut off date.

We oppose neither mobility, nor the opportunity for scientists to be rewarded for their abilities. Nevertheless, the effect of offering very high salaries to attract a few stars could have major distorting impacts on university budgets, and importantly have adverse consequences for the career prospects of post doctoral fellows and junior academic staff. The short term benefits may be outweighed by the longer term costs.

3. Shortages in key areas

The draft report acknowledges a shortage of engineers and of secondary school teachers in science and mathematics. While some of these shortages may reflect historic price signals, salaries may be only part of the reason for these shortages. The unfortunate decline in the status of teaching may not necessarily be compensated for by higher salaries.

However, we would also draw your attention to the very serious position of sciences which have traditionally been supported by government, and where provision of appropriately trained personnel is very much in the national interest, but where for a variety of reasons numbers in both research

institutions and the universities have declined to critical levels. This includes taxonomy, entomology, plant pathology, and, beyond the merely taxonomic, the study of the whole range of invertebrates and cryptogamic plants. It is ironic that as the importance of biodiversity both to sustainability, and as a source of specific products, is being recognised internationally, the national ability to advance research in biodiversity is rapidly declining. While there are some opportunities for employment in the private sector, industry in Australia [as elsewhere in the world] relies on the major public institutions [research museums, herbaria and government environmental research institutions] to provide the fundamental knowledge basis.,

Similarly showing rapid decline are the geological sciences. Here the situation is different in that there is a very high demand [and commensurate salaries] for graduates – but despite these price signals undergraduate enrolments at many universities continue to fall, and the funding models for universities make it very difficult to retain geology departments, despite there being a national interest in so doing.

We recognize that as knowledge evolves some previously important disciplines will decline. However, we are concerned that there is a lack of mechanisms to identify and protect critical mass in disciplines which, while far from redundant, are dependent on public funding. Important fields of study are potentially at risk when researchers have to make shifts to work for short term gain rather than maintaining the basic enabling disciplines.

yours sincerely,

Dr Michael J. Murray
Chairman