

**AUSTRALIAN E-RESEARCH INFRASTRUCTURE COUNCIL (AeRIC)
AeRIC MEETING – 1 OCTOBER 2008**

AGENDA ITEM 2: REVIEW OF THE NATIONAL INNOVATION SYSTEM

Purpose

To report to AeRIC on the Review of the National Innovation System.

Issues

Background

The Review of the National Innovation System, announced by the Minister for Innovation, Industry, Science and Research in January 2008, was conducted by an expert panel chaired by Dr Terry Cutler. Dr Cutler recently delivered the Panel's report to the Minister. The report can be found at <http://www.innovation.gov.au/innovationreview/Pages/home.aspx>.

Main messages

The Panel found that Australia's innovation performance had stalled over the last decade, with some indicators suggesting there had been an absolute decline recently.

The Panel considered innovation to be 'the processes of creative problem solving or solution seeking – designed to produce practical outcomes'.

In particular, open collaborative innovation was noted as important. In view of this, the Panel supported a coordinated, collaborative and strategic approach to *research infrastructure* investment.

The Panel found that Australia was falling behind developed and emerging economies in its commitment to investment in *public-funded research* and considered the issue not only financial but structural, in the sense that collaboration was not encouraged and effort was consequently fragmented.

The Panel found that a comprehensive reinvigoration of Australia's innovation efforts is required; involving greater international engagement; a more open and collaborative approach; a substantial increase in investment (private and public); and a more coherent and strategic whole of government approach.

Recommendations

With input from submissions, consultations and international advisors, the Panel developed 72 recommendations around all aspects of the innovation system, including: human capital and strengthening skills, business innovation; taxation, including R&D tax concessions; research; public sector innovation; governance of the innovation system; national facilities and collections; information flows; and market design and regulation.

Recommendations around governance included replacing the Prime Minister's Science, Engineering and Innovation Council (PMSEIC) with a National Innovation Council. It also recommended the establishment of an Office of Innovation Assessment, a Research Co-ordination Council, and a National Centre for Innovation Research. The Panel recommended that the Minister for Innovation be joint signatory on all innovation Cabinet proposals.

Research Infrastructure

The Panel noted the responses to the Review and the review of the NCRIS Roadmap indicated that a coordinated, strategic and collaborative approach to research infrastructure investments was needed.

The Panel recognised that such approaches were emerging, for example through NCRIS, but that national coordination across these different levels of investments, and managing institutions, were needed. The Panel noted the significance of smaller items of infrastructure, infrastructure investments of national significance, and landmark infrastructure.

Consequently, the Panel made two recommendations around research infrastructure:

- Establish a National Research Infrastructure Committee to advise on strategic directions in funding of national research infrastructure including landmark infrastructure. This committee would be a sub-committee of the proposed National Innovation Council. The committee would drive and undertake strategic planning and mapping across all categories of research infrastructure and contribute policy advice to Government.
- To ensure a sustainable research infrastructure strategy into the future, extend funding for a successor program to the National Collaborative Research Infrastructure Scheme (NCRIS) for 10 years including capital and operational support of \$150 to \$200 million per annum. The remit of such funding should explicitly include support for the humanities, social sciences and creative arts as well as the sciences.

Research

These comments were made by the Panel against its finding that Australian Government expenditure on science and innovation in higher education and other research agencies had fallen as a percentage of GDP over the past 15 years from 0.40% of GDP (1993-94) to 0.32 % of GDP (2007-08). Correspondingly, total Australian Government expenditure on science and innovation also fell from 0.75% to 0.55% of GDP.

The Panel considered the problem to be not only financial but structural. The Panel found that there were few incentives for collaboration and many pressures encouraged fragmentation of efforts through endless creation of new research agencies and institutes, resulting in much money spent on duplicating basic infrastructure and expertise.

However, the primary focus of the report was not to promote major structural change but to urge better resourcing of the existing research funding system and propose minor structural changes where appropriate.

Key recommendations around Research are summarised below. The full recommendations on research and research infrastructure are at [Attachment A](#)):

- Increase funding for PFRAs and the university research system (to 93/94 levels)
- Full funding of university research
- Increase stipend for PhD students
- Substantial Infrastructure funding – potentially the NCRIS successor
- Open access to research and collections

Next steps

The Government has welcomed the Review and the Minister has endorsed its direction. The Government response to the Review will be set out in the White Paper before the end of 2008.

Action

Members note this report. Members note that copies of the report of the Review will be forwarded to them in the next fortnight, as a new print batch becomes available.

AeRIC Secretariat

October 2008

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Report's Recommendations on Research

Recommendation 6.1

Adopt the principle of fully funding the costs of university research activities and implement through adjustments in funding to block and competitive grant schemes, without compromising grant success rates. Lessons from overseas and current government investigations should provide evidence for the full costs of university research and allow rapid transition to a full-cost funding model.

Recommendation 6.2

Base the distribution of research block funding to universities on success in winning national competitive grants and on evidence of excellence in research, such as the research quality rankings to be produced by the Excellence in Research for Australia initiative.

Recommendation 6.3

Develop a strategy to support the strengthening of publicly funded research agencies (PFRAs) within the National Innovation System over time, including urgent restoration of funding levels.

Recommendation 6.4

In the short term, increase funding both for the PFRAs and the university research system to at least match the proportion of GDP that was allocated to them in the mid-1990s. In the longer term the goal should be to match investment levels of leading OECD economies.

Recommendation 6.5

To build concentrations of excellence, encourage collaboration and achieve better dissemination of knowledge, introduce additional funding support for university and other research institutions to partner with each other and with other research organisations (national and international). Discussions about additional levels of support should occur during the projected round of compact negotiations.

Recommendation 6.6

The implementation of new incentives around national challenges, including water, carbon emission reduction and related climate change and environmental initiatives needs to avoid further fragmentation of responsibilities and encourage consolidation.

Recommendation 6.7

Australia should enhance its capacity to engage internationally by opening up current innovation granting programs to international partners and participants.

Recommendation 6.8

The NHMRC should be resourced to deliver incentives designed to rationalise and consolidate Australia's health and medical research sector, including universities and independent medical research institutes, to achieve efficiency and effectiveness of the sector.

Recommendation 6.9

Funds currently distributed under the Research Training Scheme and Australian Postgraduate Award (APA) schemes should be allocated to institutions on the basis of demonstrated excellence in research based on the research quality rankings that will be produced by the Excellence in Research for Australia Initiative.

Recommendation 6.10

The research quality rankings from the Excellence in Research Australia initiative should be made publicly available to promote matching of the best research groups with the best doctoral students.

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Report's Recommendations on Research

Recommendation 6.11

The APA annual student stipend should be raised to at least match the current APA(I) stipend of around \$25,000 — and then indexed by average earnings; at the same time, the length of support provided under an APA should be increased to 4 years.

Recommendation 6.12

Early career research fellowship schemes that incorporate up to two years of supported research experience in another country should be introduced.

Recommendation 6.13

Establish a National Research Infrastructure Committee to advise on strategic directions in funding of national research infrastructure including landmark infrastructure.

Recommendation 6.14

To ensure a sustainable research infrastructure strategy into the future, extend funding for a successor program to the National Collaborative Research Infrastructure Scheme (NCRIS) for 10 years including capital and operational support of \$150 to \$200 million per annum. The remit of such funding should explicitly include support for the humanities, social sciences and creative arts as well as the sciences.