



**The Australian Government Response**

**To the House of Representatives Science &  
Innovation Standing Committee**

**Report of the Inquiry into Pathways to  
Technological Innovation**

**September 2007**

## **Introduction**

On 16 March 2005 the then Minister for Education, Science and Training, the Hon Dr Brendan Nelson MP, referred to the House of Representatives Standing Committee on Science and Innovation an inquiry into pathways to technological innovation.

Under the terms of reference for the inquiry, the Committee was asked to inquire and report on:

...Australian technological innovation and pathways to commercialisation, with particular reference to examples of successful Australian technological innovations which demonstrated strategies to overcome potential impediments and the factors determining success.

To assist in its inquiry the Committee requested case studies illustrating the pathways leading to successful technological innovation, and additional information relating to:

- pathways to commercialisation;
- intellectual property and patents;
- skills and business knowledge;
- capital and risk investment;
- business and scientific regulatory issues;
- research and market linkages;
- factors determining success; and
- strategies in other countries that may be of instruction to Australia.

The Committee, chaired by Mr Petro Georgiou MP, released its report entitled "Pathways to Technological Innovation" in June 2006. The report contained eighteen recommendations with broad reference to the institutional arrangements and administrative mechanisms supporting technological innovation in Australia.

The Australian Government tabled an interim response on 30 November 2006. The Committee's report and further information on the inquiry can be found at:

<http://www.aph.gov.au/house/committee/scin/pathways/subs.htm>

## **The Final Government Response**

### **Recommendation 1**

**The Committee recommends that the Australian Government better promote the assistance that is available for businesses to locate the most appropriate innovation support programs. Increased promotion to be considered includes:**

- a) the provision of prominent links in all publicity materials and on Australian Government innovation websites to program assistance available through AusIndustry initiatives and the National Innovation Council website; and**
- b) disseminating promotional information and liaising more closely with industry organisations and peak bodies.**

**Supported.** The Australian Government is committed to optimising the up-take of its innovation support programmes

### **Recommendation 2**

**The Committee recommends that the Australian Government Department of Education, Science and Training establish a working group to improve the coordination of Australia's innovation policy framework. Specifically the working group should consider initiatives to:**

- a) further strengthen cross-portfolio dialogue to enhance the whole-of-government understanding of innovation policy needs; and**
- b) improve cross-portfolio program coordination, so as to ensure continuity of support throughout the innovation process.**

**Supported in part.**

a) **Supported In Principle.** There are in place a number of mechanisms that facilitate cross-portfolio dialogue on innovation policy and enhance whole-of-government understanding of innovation policy needs, including the Coordination Committee on Science and Technology and the Commonwealth State and Territory Advisory Committee on Innovation. In this context the Australian Government will continue to consider what opportunities exist to enhance whole-of-government understanding of innovation policy needs.

(b) **Supported in Principle.** The Australian Government's business innovation support programmes are delivered via a single agency, AusIndustry, which has a coordinated and systematic approach to programme design and delivery. Cross-portfolio coordination with respect to the support for the innovation process more broadly is addressed in the response to part a) of this recommendation.

### **Recommendation 3**

**The Committee recommends that the Department of Education, Science and Training, in conjunction with the Australian Vice-Chancellors' Committee and publicly funded research agencies:**

- a) conduct a study into jurisdictional, promotion, mobility and cultural issues in publicly funded research agencies and universities which may impede an entrepreneurial culture and innovation; and**
- b) develop options for universities and publicly funded research agencies to provide governance structures and incentives which encourage business and entrepreneurial skills and commercial outcomes within these organisations.**

**Supported in principle.** Progress in the provision of incentives for universities and publicly funded research agencies for the development and encouragement of entrepreneurial skills and behaviours has already been made through the broadening of commercialisation surveys to include more appropriate metrics for research commercialisation and through the consideration of these issues by the Business Industry Higher Education Collaboration Council. The Australian Government asked the Productivity Commission to undertake a research study on public support for science and innovation. In the light of the Commission's findings, the Australian Government will consider placing the Standing Committee's proposal on the forward work agenda of the Coordination Committee on Science and Technology.

### **Recommendation 4**

**The Committee recommends that the Department of Education, Science and Training expand its annual Australian Science and Innovation System: A Statistical Snapshot to include the following data:**

- a) the number of students with combined science, engineering, technology/business/commerce degree qualifications;**
- b) state and territory breakdowns of science, engineering, technology graduates;**
- c) breakdown by subject and qualification of the number of foreign citizens with science, engineering, technology qualifications graduating from Australian universities; and**
- d) science, engineering, technology graduate workforce participation rates.**

**Supported.** The Department of Education, Science and Training currently reports against many of the recommended measures, and, starting with 2008 editions, undertakes to report against all of the above requested measures in future editions of its statistical publications.

## **Recommendation 5**

**The Committee recommends that the Australian Government establish a dedicated whole-of-government taskforce to develop a series of measures targeting the early development of entrepreneurial skills in the education system (including the early school years) and the broader community. To inform the development of these measures, the Committee recommends that the taskforce draw upon the expertise of educators, researchers and industry specialists.**

**Supported in Principle.** The Australian Government supports the principle of further skilling Australians in entrepreneurship. The Australian Government currently promotes enterprise and innovation in the education system through several mechanisms. These include the Australian School Innovation in Science, Technology and Mathematics Project, Enterprise Learning for the 21st Century initiative and online curriculum content developed in the 'Business and Enterprise' section of The Learning Federation. The Australian Government considers that a useful preliminary step prior to establishing a whole-of-government taskforce would be for the Department of Education, Science and Training to work with stakeholders to scope the current range and availability of entrepreneurship education in the schools, vocational and technical education, higher education, and non-government sectors. If a whole-of-government taskforce is needed, this work would help to inform the development of its terms of reference.

## Recommendation 6

**The Committee recommends that IP Australia implement strategies to promote the uptake of the innovation patent, and report to the Australian Government Minister for Industry by 30 June 2007 on the following:**

- a) **the increased level of uptake for the innovation patent; and**
- b) **the effectiveness of the innovation patent in reducing costs for small to medium sized enterprises.**

**Supported in part.** IP Australia completed a Review of the Innovation Patent system and reported in August 2006. The review found that the system meets its objectives and that changes are not warranted at this stage.

a) **Supported.** IP Australia will continue its on-going marketing activities including programs designed to raise awareness of the value of intellectual property (IP) rights. The program will focus on promoting the uptake of the innovation patent by Australian business. IP Australia will report to the Minister for Industry, Tourism and Resources by 30 June 2007 on promotional activities undertaken during the 12 month period. The report will also include an analysis of any changes in the levels of applications made by Australians for innovation patents. The Australian Government notes that seeking patent protection is a business decision and that businesses protect their innovations in a number of ways. Whilst an increase in patent applications is an indicator of innovative activity, it is only one of a number of factors.

b) **Not supported.** The Review of the Innovation Patent addressed the matter of comparative costs of the system for users. It established that official innovation patent fees are significantly less than standard patent fees in the first 4 years, with the costs being marginally less than for a standard patent for the remaining 4 years. The review also noted that because of the relative simplicity of the innovation patent system, around 67% of innovation patent applicants self-file [compared with 3% for a standard patent], which further reduces costs for applicants. Self-filing an application avoids the cost of agent fees, which form the main costs involved in obtaining patent protection.

## **Recommendation 7**

**The Committee recommends that the Attorney-General request the Advisory Council on Intellectual Property to review Australia's intellectual property system to determine the capacity for reduction in the misuse of the system.**

**Not supported.** The Australian Government considers that the proposed terms of reference are overly broad and that the intent of this recommendation is best served by tasking Advisory Council on Intellectual Property (ACIP) to undertake more targeted and specific reviews addressing the protection and enforcement of IP rights in Australia. ACIP is currently undertaking reviews into the enforcement of patents post grant and the enforcement of plant breeder's rights. The Australian Government also notes that ACIP has recently undertaken a number of reviews which have recommended changes to make for a more effective intellectual property system and to help reduce the capacity for misuse within the system. A number of these recommendations have only recently come into force, or have yet to be accepted and/or implemented. Accordingly, the Australian Government considers that there has been insufficient time to assess the full effects of these changes, to warrant an inquiry as proposed.

## **Recommendation 8**

**The Committee recommends that the Australian Government, through the Department of Foreign Affairs and Trade, pursue the enforcement of intellectual property legislation during trade and diplomatic negotiations with China.**

**Supported.** The Australian Government recognises that ineffective intellectual property (IP) rights enforcement in China is a real and ongoing concern for Australian intellectual property rights holders and continues to pursue the issue of effective enforcement of IP rights with the Chinese Government in bilateral and multilateral fora, including the World Trade Organization. In the context of the Australia-China Free Trade Agreement negotiations, the Australian Government, through the Department of Foreign Affairs and Trade, is pursuing a comprehensive agreement, including IP protection. IP is a sensitive issue for China, and the negotiations will be difficult. Nonetheless, the Australian Government will negotiate for an IP chapter that includes practical mechanisms to enhance the IP enforcement environment in China; outcomes of commercial benefit to Australian industry; and bilateral co-operation in the enforcement and protection of IP rights.

## **Recommendation 9**

**The Committee recommends that the Australian Government review Intellectual Property legislation according to National Competition Policy Agreements and establish an Intellectual Property legislation system of periodic re-review.**

**Supported in Principle.** A comprehensive review of Australia's intellectual property legislation under the Competition Principles Agreement was undertaken in 2000. While the major recommendations have been implemented others are yet to be fully adopted. Therefore it is not possible at this time to make an assessment of the full effects of the outcomes of that review. As a consequence, a further review as proposed would not be appropriate at this time.



## **Recommendation 10**

**The Committee recommends that the Australian Government give priority consideration to the Commonwealth Scientific and Industrial Research Organisation's proposal for an Australian Growth Partnerships program to engage small to medium enterprises in demand driven collaborations with publicly funded research agencies.**

**Supported in principle.** The Australian Government recognises that technology transfer is a key component of innovation and that developing stronger linkages and collaboration between industry and the research sector is therefore essential. Accordingly, there are a number of Commonwealth funding mechanisms already in place to support innovation in, and knowledge transfer to, the private sector. The Australian Government is committed to improving and ensuring that these programmes are appropriately targeted including, where appropriate, engaging small and medium enterprises. The Government notes that Commonwealth Scientific and Industrial Research Organisation (CSIRO) as well as a number of other public sector research institutions have put in place initiatives to facilitate innovation and commercial outcomes, including initiatives to engage more effectively with small to medium enterprises (SMEs).

As a part of the Industry Statement announced on 1 May 2007, the Australian Government has provided funding to the Intermediary Access Programme, which aims to connect small businesses with public researchers and other businesses to help them acquire the knowledge and technology to be more globally competitive.

The Australian Government further announced, in conjunction with the 2007-08 Budget, that it would provide funding to CSIRO over the next four years to accelerate and expand the National Research Flagships. As part of the new Flagship initiatives, the reach and impact of the Flagship Collaboration Fund will be extended. The expanded Flagship Collaboration Fund will include a "Smart SMEs" component to facilitate a major increase in CSIRO's current engagement with SMEs. "SmartSMEs" will incorporate a portfolio of three approaches to assist SMEs, namely:

1. *Direct support for SMEs* by providing financial support to allow them to capitalise on access to intellectual property and expertise in publicly funded research agencies participating in the Flagship Program;
2. *Channel for international innovation*, by accessing, adapting and transferring overseas technology, creating data networks, building entry into global supply chains and facilitating overseas R&D for Flagships and the associated SMEs; and
3. *Industry linkage/engagement* to assist SMEs to connect to technology solutions through mechanisms such as technical help desks and improved leveraging of existing networks.

## **Recommendation 11**

**The Committee recommends that the Australian Government request the Business Industry Higher Education Collaboration Council to examine and develop the business case for third stream funding to universities.**

**Supported.** The Minister for Education, Science & Training, the Hon Julie Bishop MP, has asked the Council to examine the case for new policy and additional funding to support knowledge transfer (i.e. 'third stream' activities) in Australian higher education institutions. The Council's advice will be considered by the Minister after it reports in 2007.

## **Recommendation 12**

**The Committee recommends that the Australian Government introduce a funded cluster development program to encourage the Australia-wide development of clusters which bring together innovation in research, business and education.**

**Not supported.** The Australian Government currently supports a range of programmes that support collaboration between researchers and research users, and between businesses and researchers as well as between businesses themselves. Examples include the Cooperative Research Centres programme, and intermediaries such as InnovationXchange and Techfast.

## **Recommendation 13**

**The Committee recommends that the Australian Government introduce a funded proof of concept scheme, based on the Group of Eight Innovation Stimulation Fund proposal and providing the following for university research projects with high potential for commercial outcomes:**

- a) **matched Australian Government and university funding investment in the suggested ratio of 3:1;**
- b) **a maximum funding per project of \$100 000; and**
- c) **funded for an initial three year period to a maximum Australian Government investment of \$45 million.**

**Not supported.** However, the Australian Government will continue to consider adjustments to the research and innovation funding system in the future.

#### **Recommendation 14**

**The Committee recommends that the Australian Government implement additional support mechanisms to specifically assist the progression of innovation through pathways other than the formation of start-up companies.**

**Not supported.** The Australian Government provides mechanisms to assist the progression of innovation through a variety of pathways. The Cooperative Research Centres (CRC) programme assists public sector research organisations via the establishment of collaborative research projects which allows innovation to be progressed without the need for a start-up company. The Australian Government has also provided additional funding to support intermediary services who work with both the public and private sector to facilitate the transfer of knowledge and intellectual property, and promote the optimal use of innovation.

#### **Recommendation 15**

**The Committee recommends that the Australian Government assess the revenue implications and potential economic returns of extending the R&D Tax Concessions eligibility to include Australian based subsidiaries of multinational companies.**

**Supported.** As part of the Industry Statement announced on 1 May 2007, the Australian Government will extend access to the 175 per cent premium R&D tax concession to Australian subsidiaries of multinational enterprises who perform R&D in Australia but hold the associated intellectual property overseas.

## **Recommendation 16**

**The Committee recommends that the Australian Government Department of Industry, Tourism and Resources extend the support available to provide for later stage commercialisation activities, such as market identification, marketing and sales strategies. This support may be provided either by extending the range of activities eligible under the Commercial Ready Program or by establishing alternative mechanisms of assistance which are compliant with World Trade Organisation and other trade agreement conditions.**

**Not Supported.** Analyses of the Australian capital market have shown that later stage commercialisation activities are more likely to be able to attract finance due to the greater certainty of return associated with these investments. The Australian Government is continuing to provide support to the early stage capital market as demonstrated in the 2006-2007 budget commitment to a third round of funding for the Innovation Investment Fund program and the introduction of Early Stage Venture Capital Limited Partnerships. Commercial Ready supports research and development, proof of concept and early stage commercialisation activities and on 24 August 2006 the Minister for Industry, Tourism and Resources announced an increase in the turnover threshold of Commercial Ready to \$100m, to allow medium sized companies to apply for support of their R&D activities. A formal review of the Commercial Ready Program is scheduled for the 2007-2008 financial year (refer to recommendation 17).

## **Recommendation 17**

**The Committee recommends that the Australian Department of Industry, Tourism and Resources conduct a formal review by 30 June 2007 of the effectiveness of the Commercial Ready Program, giving particular consideration to the following possible program amendments:**

- a) **extending eligibility to spin-off companies from publicly funded research institutions;**
- b) **extending eligibility to Australian-based subsidiaries of foreign owned companies; and**
- c) **reducing the co-contribution requirements and increasing the turnover thresholds.**

**Supported in Principle.** In 2004, at the time the Commercial Ready Programme was established, the Government agreed that a formal review of the programme be scheduled for the 2007-2008 financial year. The formal review will be conducted after three full financial years of data on programme performance are available. The review will take into consideration the particular issues raised by the Committee. On 24 August 2006 the Minister for Industry, Tourism and Resources announced an increase in the turnover threshold of Commercial Ready to \$100m, to allow medium sized companies to apply for support of their R&D activities.

## **Recommendation 18**

**The Committee recommends that the Australian Government:**

- a) **direct all Government agencies to report publicly on what proportion of the 10 per cent purchasing from small to medium enterprises, which is set out in Australian Government Procurement Guidelines, is directed toward technological innovation; and**
- b) **investigate mechanisms to encourage Government procurement of technological innovation from Australian small to medium enterprises where available.**

**Not supported.** The use of the Government's procurement framework to pursue other objectives has been in decline for some time. This trend recognises the poor effectiveness, low transparency and high enforcement cost of such strategies. In addition to the difficulty with the identification of 'technological innovation', requiring whole-of-government reporting would be an additional significant financial and administrative burden on agencies. Imposing additional reporting obligations is also in conflict with the Australian Government's drive to reduce red tape. The procurement policy framework encourages fair competition for all small to medium enterprises (SMEs) allowing innovative SMEs to establish a competitive advantage.