



Australian Government

Australian Government Response to the House of Representatives Standing Committee on Science and Innovation Report:

“Riding the Innovation Wave: The Case for Increasing Business Investment in R&D”

Department of Industry, Tourism and Resources

March 2004

Australian Government response to the House of Representatives Standing Committee on Science and Innovation Report '*Riding the Innovation Wave - The Case for Increased Business Investment in R&D*'

Recommendation 1

The committee recommends that, in order to increase awareness of the importance of innovation and commercialisation, the Commonwealth government:

- *promote case studies which show the success of companies that have benefited from R&D;*
- *introduce a system of prestigious awards to recognise individuals and companies that successfully commercialise their inventions;*
- *encourage, and facilitate where appropriate, the formation of mentoring groups to provide advice to researchers and businesses about commercialisation; and*
- *conduct education programs about taking a new product to market.*

Response:

The Australian Government places strong importance on awareness of innovation and commercialisation and has a number of initiatives in place to showcase the commercialisation and innovation of Australian research and development (R&D).

The Australian Government's Innovation Report has been produced annually since 2001, and provides case studies of organisations that have benefited from R&D. Case studies on a number of programs have also been developed by AusIndustry and Invest Australia that demonstrate the success of firms in undertaking R&D. The 2003 Invest Australia publication, *Australian Casting*, highlights Australia's competitive advantages for the light metals sector, using Australian case studies. Additionally, the Light Metals Action Agenda Strategic Leaders Group report to Government, *Australia Leading the Light Metal Age* showcases some of the innovative firms in the light metals area.

During 2001–02, the Australian Research Council, the National Health and Medical Research Council and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) undertook a survey of the research commercialisation activities of universities, medical research institutes and CSIRO divisions. 'Product success stories' were presented in the final report of the survey *National Survey of Research Commercialisation –Year 2000*.

The Australian Government has a number of prestigious award systems which encourage innovation and entrepreneurship, for example, the Ernst & Young Entrepreneur of the Year, Australian Export Awards and Australian Engineering Excellence Awards.

The Australian Government has a number of initiatives in place to provide advice to researchers and businesses about commercialisation. Programs such as the Tailored Assistance for Commercialisation stream of the Commercialising Emerging

Technologies (COMET) program provide successful applicants with the mentoring services of a private sector Business Adviser as well as financial assistance.

The Australian Government, through Austrade and the TradeStart network, offers a package of free services under the New Exporter Development Program to assist small and medium sized Australian firms develop their businesses overseas and make their first export sale. IP Australia conducts education programs about how to take a new product to market, and the Australian Nuclear Science and Technology Organisation has established a mentoring framework to give advice to researchers about commercialisation.

Education programs are currently in place, for example, through the Minerals Tertiary Education Council and other Minerals Council of Australia initiatives. Additionally, IP Australia also conducts education programs for researchers and businesses about taking a new product to market. For example, IP Australia has recently run IP workshops for the Mining Technology Services sector under the Mining Technology Services Action Agenda.

The eBusiness Division and the National Infrastructure and Engineering Forum are also involved in education and promotion activities and various state governments also undertake programs to promote case studies showcasing successful R&D support, awards for innovative breakthroughs, facilitate mentoring groups and conduct education programs concerned with taking a new product to market.

Recommendation 2

The committee recommends that the Commonwealth government expand the mentoring services available to small and medium-sized enterprises beyond those currently offered by the COMET Program.

Response:

The Australian Government is currently evaluating *Backing Australia's Ability*, a five-year initiative introduced in 2001 to provide \$3 billion of additional funding to support science and innovation. This evaluation, together with the findings of a major science and innovation mapping exercise, will inform the development of science and innovation measures to apply when *Backing Australia's Ability* expires after 2005.

Future changes to the Tailored Assistance for Commercialisation stream of the Commercialising Emerging Technologies (COMET) program will be considered within the Government's post-*Backing Australia's Ability* policy development framework. In response to a review of the COMET program in 2002, however, changes are already underway to introduce an expanded mentoring element under the Management Skills Development stream of the COMET program.

In addition to the mentoring services provided under COMET, the Innovation Investment Fund, Pre-Seed Fund managers and the Building on IT Strengths Incubators also provide mentoring to their investee companies to assist in building managerial and entrepreneurial skills. The Small Business Assistance Program also

provides assistance to eligible applicants for the provision of mentoring services through its Small Business Enterprise Culture grants.

Recommendation 3

The committee recommends that the Commonwealth government ensure that the Australian Bureau of Statistics undertakes surveys of innovative activity in the Australian economy, such surveys to include details of the non-technological innovation that is taking place in Australia.

Response:

The Australian Government is currently evaluating the *Backing Australia's Ability* initiative. Future changes to surveys of innovative activity in the Australian economy will be considered within the Government's post-*Backing Australia's Ability* policy development framework.

The Australian Bureau of Statistics (ABS) is planning to conduct an innovation survey in early 2004. The reference period will be calendar year 2003. The survey will be compatible with the Organisation for Economic Cooperation and Development/Eurostat guidelines (as outlined in the "Oslo Manual") and will include technological, organisational and managerial innovation in a wide range of industries, including service industries.

The ABS currently has no firm plans for future surveys beyond 2004. The decision on future surveys will be based on demand, relative priorities and the ABS's overall funding (including external funding).

Recommendation 4

The committee recommends that relevant industry associations, in conjunction with the Australian Bureau of Statistics, identify the economic benefits of research 'crossovers' such as that between the minerals/mining sectors and the environment sector.

Response:

The Australian Government recognises that this is an important issue. The economic benefits of research crossovers between the minerals, mining and environment sectors are currently being examined by some industries.

- The Light Metals Action Agenda partnership with the Commonwealth Scientific and Industrial Research Organisation Light Metals Flagship and the Cooperative Research Centre for Cast Metals Manufacturing are examples of this type of relationship.
- The proposed Australian Bureau of Statistics Innovation Survey in 2004 will collect some information on linkages between organisations undertaking and supporting innovative activity.

However, benefits may be difficult to identify through statistical means and it may be necessary to use different kinds of methodologies (such as case studies and interviews) to identify and estimate their benefits.

Recommendation 5

The committee recommends that the Commonwealth government, in consultation with the states:

- *identify key R&D sectors for further development;*
- *encourage state governments and local councils to promote R&D within their jurisdictions; and*
- *assist the efforts of local governments to encourage small and medium sized enterprises to share information about research and commercialisation.*

Response:

The Australian Government recognises that identifying key R&D sectors for further development is an important issue. That is why, in December 2002, following extensive consultation with the research community, the Australian Government selected four national research priorities to focus our investment on research in key areas that can deliver significant economic, social and environmental benefits to Australia. The national research priorities - an environmentally sustainable Australia; promoting and maintaining good health; frontier technologies for building and transferring Australian industries; and safeguarding Australia - will encourage Australia's public research agencies to build on our national research strengths while seeking new opportunities in emerging sectors.

The Australian Government already has a number of initiatives in place to encourage state and territory governments to promote R&D within their jurisdictions. The Commonwealth, State and Territory Advisory Council on Innovation was established by Commonwealth, State and Territory Industry Ministers in February 2000 to enhance innovative activity across Australia. With a targeted and strategic approach to innovation issues, the Council aims to improve the effectiveness, integration and coordination of the national innovation system, including R&D. The Council comprises senior representatives of each Australian, state and territory government industry department, as well as each state and territory innovation council, and meets twice a year. The Council's work focuses on innovation issues relating to business development. Recent meetings have focused on innovation awareness, the commercialisation of public sector research and intellectual property issues.

The National Innovation Awareness Strategy provides support for activities and initiatives that foster entrepreneurship and awareness of innovation. This includes support for the Australian Innovation Festival, which is comprised of more than 300 events with many funded by state and local governments.

The Linkage-Projects element of the National Competitive Grants Program administered by the Australian Research Council (ARC) encourages the development of long-term strategic research alliances between higher education institutions and a

wide range of industry partners, including many in regional areas, as well as state and Australian Government departments and community organisations. This program plays an important role in bringing state government departments into research training partnerships with university researchers. State governments have also been key contributors to the establishment of ARC research centres.

Recommendation 6

The committee recommends that the Commonwealth government, in conjunction with the states:

- *assess the efficacy of current efforts to improve students' knowledge of, and interest in, technology-oriented careers, with a view to introducing specific schemes to encourage young people to undertake the study of engineering and technology; and*
- *promote the interest of school students in such careers by publicising the achievements of successful engineers and technologists.*

Response:

The Australian Government recognises the importance of improving students' interest in science and technology-oriented careers, and has a number of initiatives in place to ensure the interest of school students in such careers is widely and effectively encouraged.

The final report of the independent Review of Teaching and Teacher Education, *Australia's Teachers: Australia's Future – Advancing Innovation, Science, Technology and Mathematics*, initiated by the Australian Government under *Backing Australia's Ability* was released on 9 October 2003. The Review has proposed 54 wide-ranging actions to increase the numbers of talented people who are attracted to teaching as a career, especially in the fields of science, technology and mathematics education, and to build a culture of continuous innovation in Australia's schools and a capacity for innovation among Australia's young people. Among the actions included in its report, the Review Committee proposes the establishment of a national science and innovation program to assist schools and education authorities in a range of ways to develop teachers' and students' science, technology and mathematics knowledge and their capacity to be innovative. This and other actions proposed by the Review Committee will be considered by the government in the Budget context.

Under *Backing Australia's Ability*, the Australian Government provides funding to state government schools through the Science, Mathematics and Technology in Government Schools program. This program is aimed at developing strong foundation skills in science and technology in young people. Approximately \$35 million was contributed by the Australian Government in 2002-03.

The importance of a foundation skills base developed in students in both primary and secondary schools for future innovators and entrepreneurs is acknowledged through emphasis on vocational and enterprise education in the nationally agreed National Goals for Schooling in the Twenty-First Century, which supports the development of

employment related skills, an understanding of the work environment and programs which foster and develop enterprise skills such as flexibility and adaptability.

The Australian Government is currently supporting enterprise education in schools in a number of ways including through the provision of teacher resources, professional development seminars and a major two year enterprise education action research project which aims to identify and promote innovative approaches to enterprise education in schools.

Trend data from the states and territories have shown that schools have broadened their vocational education and training (VET) offering. In 2002, 6.2 per cent of students were located in the engineering and mining industry and 0.6 per cent in science, technical and other industries. Training packages now cover many of the science and technology industry areas and can be delivered in VET in school programs. Such industry areas include: the automotive industry; the electrotechnology industry; general construction; the forest and forest products industry; laboratory operations; metal and engineering; and rural production.

Questacon, which became part of the Department of Education, Science and Training on 1 July 2003, is Australia's leading interactive science and technology centre and actively seeks to promote the relevance and importance of science and technology in our everyday lives. Questacon has a range of Outreach Programs that tour the length and breadth of Australia. These programs are delivered by trained staff and offer a combination of exhibits, demonstration shows, workshops and written education materials. Their emphasis is not only on making an impact on the day the program is experienced, but on follow-up support through teaching materials and teacher workshops. Questacon's "Smart Moves" Program is delivered to rural and regional Australia and makes connections between the study of science and the career paths that can be pursued as a result.

Commonwealth Scientific and Industrial Research Organisation Education offers Creativity in Science and Technology (CREST) awards to schools. There are two CREST programs available - one for primary school students and one for secondary students and beyond. CREST provides students with a nationally accredited award for completing experimental science or technology projects. Students choose, carry out and evaluate their own project with guidance from a teacher/supervisor.

As part of *Backing Australia's Ability*, the Australian Government established the National Innovation Awareness Strategy to raise awareness in young Australians and in small to medium sized business enterprises of the importance and benefits of innovation, entrepreneurship and commercialisation.

The Australian Government has a number of initiatives in place to showcase the achievements of successful engineers and technologists. The achievements of researchers in the physical sciences are annually celebrated through the award of the Malcolm McIntosh Prize for Physical Scientist of the Year. This is one of five Prime Minister's Prizes for Science.

The Academy of Technological Sciences and Engineering, and the Clunies Ross Memorial Foundation together celebrate Australian individuals' and firms' scientific

and technological/engineering achievements through the annual Clunies Ross Awards (8 in 2003); and the Australian Design Awards also do the same. These organisations also have media strategies to promote the winners.

The Cooperative Research Centres (CRC) Association, with support from the Australian Government, also provides several awards for excellence in innovation. These awards are promoted by the CRC Association and by individual CRCs.

Professional organisations such as the Institution of Engineers, Australia; the Business Council of Australia and the Minerals Council also promote engineering and technological achievements.

Recommendation 7

The committee recommends that the Commonwealth government seek to attract major international corporations to site their R&D facilities in Australia and actively manage an on-going relationship with these companies by:

- *considering the use of a refundable tax offset whereby major international firms choosing to site new R&D investment in Australia can claim the offset;*
- *regularly meeting with the major international corporations already resident in Australia so as to refine, where necessary, the government's support programs in order to retain those companies' R&D investments; and*
- *incorporating input from international corporations into the operations of Invest Australia.*

Response:

The Australian Government recognises the importance of these issues. Invest Australia and the Department of Communications, Information Technology and the Arts are already actively engaged with multinational companies through initiatives such as Multinationals Promoting Local Investment, Export Opportunities and Research Strengths, through which group meetings of high level Chief Executive Officers from information and communication technology multinational corporations are conducted. The Minister for Communications, Information Technology and the Arts chairs these meetings. Other regular meetings, with multinational corporations in Australia look at assessing possible reinvestment with a view to identifying and informing the Australian Government of associated impediments/policy issues.

The Australian Government introduced the refundable R&D Tax Offset in recognition of the importance of supporting innovative small companies, particularly those that cannot immediately benefit from the R&D Tax Concession. The Offset has only been in place for expenditure made after 30 June 2001 and it is too early at this stage to assess its effectiveness at stimulating R&D. The Australian Government will consider the scope of application of the R&D Tax Offset once it has been in operation long enough to allow a fair assessment of its impact.

Recommendation 8

The committee recommends that the Commonwealth government, as part of a program to support the take-up by Australian businesses of R&D that is developed offshore, consider developing programs to familiarise businesses with overseas research.

Response:

The Australian Government already has initiatives in place to familiarise businesses with overseas research. The Australian Government's Innovation Access Program-Industry, administered by the Department of Industry, Tourism and Resources, provides support for various aspects of technology and research cooperation. In 2002-2003 the Australian Government provided approximately \$5.6 million in competitive grants with matching funds from industry to support technology best practice studies, international specialist visits, technology integration, international alliances and industrial workshops.

The Intelligent Manufacturing Systems (IMS) program, a component of the Innovation Access Program-Industry, encourages international collaboration in advanced manufacturing. It is led by industry, and addresses business practices and technologies of direct relevance to all phases of innovation and manufacturing from conception, design, production development, manufacture, distribution and recycling. Companies and research institutions from Australia, Canada, the European Union, Norway, Japan, Korea, Switzerland and the United States participate in the program. Currently, 31 industrial partners are involved.

In addition to IMS, the Showcasing element of the Innovation Access Program, which is jointly administered by the Department of Industry, Tourism and Resources and the Department of Education, Science and Training, provides support for whole-of-country showcasing of Australia's public and private sector innovation capacity at key international exhibitions. Delegation participants not only demonstrate their own innovation capacity, but also become aware of the R&D capacity of other countries, and develop collaborative R&D arrangements as appropriate.

Recommendation 9

The committee recommends that the Commonwealth government waive the current 10% limit on overseas R&D that can be deducted, for investments of demonstrable benefit to Australia and where no equivalent domestic R&D provider is available.

Response:

The Australian Government does not support this recommendation. The 10 per cent limit on overseas R&D was reviewed in depth by the Department of Industry, Tourism and Resources in 2002, and was considered by the Industry Research and Development Board in late 2001. The Minister for Industry, Tourism and Resources determined that the limit should remain at 10 per cent. This provision is designed to ensure that maximum benefits accrue to Australia from the R&D activities supported

under the programs, including promoting R&D skills and industries within Australia, while recognising that it is sometimes necessary for Australian companies to undertake R&D overseas. In terms of overall benefits to Australia, a strong argument could not be made for changing the limit. Benefits of waiving the limit are expected to be small and limited to a narrow band of beneficiaries.

Recommendation 10

The committee recommends that the Commonwealth government, as part of its efforts to increase the incentives for Australian firms to export, consider the following actions:

- *increase the cap on the Export Market Development Grants Scheme to, at the least, maintain its real value;*
- *introduce a program to inform Australian high-technology companies about government procurement programs in other countries. For example, the United States government procurement programs (in advance of the release of actual tenders by US agencies); and*
- *accelerate the negotiation of trade agreements that facilitate access by Australian companies to overseas markets.*

Response:

The Australian Government has a number of initiatives in place to encourage Australian firms to realise their export potential. In this regard, the Australian Government has already committed significant funding of over \$150 million per year for the Export Market Development Grants Scheme (EMDG). Any proposals to increase the EMDG funding would need to be considered by the Australian Government in the context of competing budgetary priorities.

The Australian Government delivers a range of initiatives and programs that promote Australian high-technology companies internationally. Austrade provides Australian companies with a range of assistance including advisory and market research services, business matching, and information and educational seminars, and delivers opportunities for overseas missions to key markets. For example, Austrade's ICT industry portal (<http://www.austrade.gov.au/it>) provides information to Australian technology companies looking to internationalise. In addition, the Innovation Access Program also showcases Australia's science, engineering and technology internationally to increase awareness of Australia's capability in leading edge skills and technology.

The Australian Government attaches a high priority to concluding Free Trade Agreements (FTAs) with major trading partners to facilitate access by Australian companies to overseas markets. Australia has concluded FTAs with the United States, Singapore and Thailand. As part of the recently signed Australia-China Trade and Economic Framework, both countries have committed to undertaking a two year scoping study, to examine the costs and benefits of entering into a Free Trade Agreement.

Recommendation 11

The committee recommends that the Commonwealth government:

- *encourage small and medium-sized enterprises in industries with common interests to set up research funding bodies via voluntary sector levies; and*
- *develop a program (perhaps along the lines of the highly successful rural Research and Development Corporations) to financially assist such research bodies.*

Response:

A number of Action Agendas, for example, the Electronics Action Agenda, have identified the need for support for pre-competitive innovation (that is, innovation where the benefits cannot be appropriated by a single firm), and possible mechanisms for encouraging this warrant further investigation. While the Australian Government and industry support provided for pre-competitive innovation through the rural Research and Development Corporations (RDCs) has been successful, the appropriateness of the RDC model, involving sector levies and research funding bodies, is not clear outside rural industries. Agricultural producers, in particular, have a common interest in carrying out generic R&D. However, this is not necessarily the same in other industries. Identifying generic technologies of equal value to all participants is more difficult in areas such as manufacturing or the service industries, for example, than it is in agriculture or mining. More research is required on how pre-competitive innovation outside the rural industries can most appropriately be supported in Australia.

Programs are in place to support individual business commitment to R&D, and Cooperative Research Centres, which exist for a variety of industries, provide a mechanism by which industry can form beneficial partnerships with research institutions.

Recommendation 12

The committee recommends that the Commonwealth government investigate ways to better demonstrate to Australian superannuation funds the opportunities arising from investing in Australian small and medium-sized enterprises that conduct R&D (recognising the primary fiduciary duty of the funds to maximise returns to their members).

Response:

The Australian Government cannot actively intervene in relation to how individual Australian superannuation funds will invest in income earning activities. In general, they pursue their investment strategies to maximise the return to their members. However, the Australian Government's recent Capital Gains Tax (CGT) reforms have enabled Australian widely-held superannuation funds to receive an exemption from CGT on investments made through a Pooled Development Fund (PDF). The PDF

program aims to develop and demonstrate the potential of the market providing equity capital to small and medium sized enterprises.

Recommendation 13

The committee recommends that the Commonwealth government consider a scheme, along the lines of the current Pooled Development Funds Program, to enable Funds or trusts whose sole purpose is to invest in R&D activities, to receive concessional tax treatment.

Response:

The Australian Government already provides a number of specific programs to facilitate and encourage investment in R&D, including the Innovation Investment Fund and the Venture Capital Limited Partnership framework. These schemes provide investors with concessional tax treatment when investing, including not incurring capital gains liabilities. With respect to the Pooled Development Funds program, shareholder investment is tax exempt.

Recommendation 14

The committee recommends that the Commonwealth government make further changes to employee share option arrangements to boost the financial incentives for researchers to commercialise their research outcomes (possibly by removing the requirement to pay tax upfront on the issue of shares in a start-up company).

Response:

Firms in innovative industries can ensure they are taking full advantage of the taxation concessions already available through information obtainable from the Employee Share Ownership Development Unit of the Department of Employment and Workplace Relations. In turn, the Unit, established as part of the Australian Government's response to the House of Representatives Standing Committee on Employment, Education, and Workplace Relations Shared Endeavours inquiry into employee share ownership released in September 2000 (the Nelson report), can gather data on the potential for employee share schemes to encourage start-up activity.

Any further changes to employee share option arrangements will be considered within the Australian Government's post-*Backing Australia's Ability* policy development framework.

Recommendation 15

The committee recommends that the financial incentive for researchers, and those commercialising research outcomes, be improved by considering the introduction of a tapered capital gains tax in relation to assets held in new high-technology companies (whereby the tax is reduced in proportion to the length of time an asset is held).

Response:

The Australian Government does not support this recommendation. The Australian Government considers that the concerns raised by the Ralph Review (1999) regarding a tapered Capital Gains Tax (CGT) that led the Review to decide against supporting a tapered CGT remain valid, including those that relate to high-technology companies. The Australian Government's introduction of the CGT scrip for scrip roll-over has been of significant benefit to capital investment in, and capital restructuring of entities, including high-technology companies.

Recommendation 16

The committee recommends that the Commonwealth government facilitate the involvement of small and medium-sized enterprises in government tender and purchasing processes by:

- *incorporating a weighting within those processes which recognises the need to promote innovative activity; and*
- *investigating the establishment of a competitive small business set aside program, modelled on the United States Small Business Innovation Research Program, in which government agencies would be required to contract a portion of their R&D funds to small and medium-sized enterprises.*

Response:

The Australian Government does not support this recommendation. The key principle for Australian Government procurement is "value for money", as set out in *Commonwealth Procurement Guidelines and Best Practice Guidance* (CPGs). Furthermore, the CPGs make specific provisions for overall small and medium-sized enterprise (SME) participation in Australian government purchasing, so that specific weightings or set aside programs directed to SME participation in regard to innovation or R&D activity are not considered necessary. It is generally recognised that the capacity for innovation is a key competitive advantage, particularly within SMEs, in proposing solutions that will achieve value for money. It is therefore not considered necessary that an innovation weighting as such be mandated within the procurement process.

Furthermore, the CPGs make specific provisions for overall SME participation in Australian Government purchasing, including requiring agencies to source ten percent of purchases from SMEs. Also Model Industry Development Criteria apply to non-IT major projects over \$5 million which provides opportunities for participation by SMEs. Consequently, specific weightings or set aside programs directed to SME participation in regard to innovation or R&D activity are not considered necessary.

While public research agencies that fall under the *Commonwealth Authorities and Companies Act 1997* are not required to comply with the CPG, agencies such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO) recognise the important role SMEs play in Australia and are adopting several strategies to enhance their ability to innovate. They have begun forming alliances with groups

such as the Australian Industry Group (AiG) to help identify the rising stars among SMEs from manufacturing and other industries to assist procurement selection, and are simplifying the negotiation and contracting processes for SMEs. In particular, CSIRO is initiating the concept of a “spin-through” which will allow the agency to work closely with leading SMEs and, where appropriate, inject some of CSIRO’s intellectual property in return for fees and a share in the benefits that arise from the application of the research. CSIRO will engage with the SMEs that have the highest growth potential more intensely and remain flexible regarding alternative fee arrangements.

Australian small and medium-sized enterprises differ substantially from those in the United States in the scale and scope of research they are able to conduct. A program that required government agencies to contract a fixed proportion of their research to SMEs could result in unsatisfactory outcomes given the limited capacity of many Australian SMEs to perform high quality research. Moreover, those SMEs that do perform research may have little spare capacity and their capacity may not necessarily be in areas that correspond to the research needs of public research agencies. Such an arrangement could substantially drive up costs.

Recommendation 17

The committee recommends that the Commonwealth government minimise regulatory hurdles for businesses to conduct and take-up R&D by:

- *promoting greater regulatory consistency across all tiers of Australian government;*
- *encouraging international harmonisation of regulations, especially with respect to Australia’s major trading partners, and when negotiating new trade agreements; and*
- *ensuring that Australian regulations facilitate research and the take-up of new technology.*

Response:

The Committee on Regulatory Reform (a Commonwealth-State regulatory reform mechanism) already promotes regulatory consistency across jurisdictions.

Through the Asia Pacific Economic Cooperation, the Australian Government is working to align the national standards across the region with international standards, to reduce cost to business and to facilitate the flow of products within the region. Harmonisation of regulations, particularly customs harmonisation, is a key consideration within the Association of South East Asian Nations (ASEAN) Free Trade Area and the Australian-New Zealand Closer Economic Relations Partnership. Through the ASEAN-Australia Development Cooperation Program, Australia provides trade-related assistance to ASEAN members to promote the use of transparent, consistent, uniform customs valuation methods and rulings. One of the aims of Australia’s participation in the World Trade Organisation Doha Round of multilateral trade negotiations, and in Free Trade Agreement negotiations with major

trading partners, is to encourage greater international harmonisation of trade rules and regulations.

The Australian Government requires that a Regulation Impact Statement be prepared for any proposed regulations that may impact on business, to ensure they are properly formulated and do not impose undue costs on business and community.

Recommendation 18

The committee recommends that the Commonwealth government, through the forum of the Council of Australian Governments (COAG), improve the public's access to spatial information by encouraging the states to make their spatial data available to the public at the cost of transferring the information, rather than at the cost of acquisition.

Response:

The Australian Government, through the Spatial Industry Action Agenda, is committed to developing a common approach to spatial data access, pricing and application of copyright policy in respect of the licensing of spatial data which maximises the benefits to Australia. The Spatial Industry Action Agenda Joint Steering Committee established to facilitate the implementation of the recommendations of the Action Agenda is making good progress and it is not considered necessary to raise the issue at the Council of Australian Governments at this stage. An important step was taken in September 2001, when the Australian Government announced a new Spatial Data Access and Pricing Policy providing free access to online fundamental spatial data sets held by the Australian Government. The Australia New Zealand Land Information Council (ANZLIC) is actively involved in pursuing the implementation of the Action Agenda, through its membership of the Joint Steering Committee. ANZLIC is promoting the adoption of consistent government policies on spatial data access and pricing by all Australian governments (following on from the lead of the Australian Government). In addition, in the important area of minerals and petroleum data sets, this issue is to be considered by the Ministerial Council on Minerals and Petroleum Resources.

Recommendation 19

The committee recommends that the Commonwealth government, financial bodies and businesses harmonise Australian accounting standards to ensure that:

- *they are not at odds with our major competitors;*
- *they are able to show the value of intellectual property held by a business; and*
- *they are able to indicate the innovative activity of the firm.*

Response:

The Australian Government recognises the importance of harmonising Australian accounting standards and the development of a single set of improved international accounting standards has already commenced. Australia is taking a lead role with the

International Accounting Standards Board to improve existing international standards and develop new standards to fill identified gaps. The new standards, currently being developed, will specifically deal with Intangible Assets, including intellectual property (IP). The implementation of the recommendation in a manner that will yield the intended results may be difficult due to the non-availability of accepted (standard) methods of IP valuation. The current IP valuation methods are inexact, and often subjective. Such methodologies are likely to be incompatible with the new company accounting standards being developed.

Australia, together with Europe, will be one of the first to adopt the new international standards. The new standards will apply to Australia from 1 January 2005.

Recommendation 20

The committee recommends that the Commonwealth government, in order to stimulate greater recognition within companies of the benefits of the tax concession, allow the R&D tax concession to be treated by the company receiving it as a benefit to be recorded as operating income for accounting purposes (and offset against the company's tax expenses).

Response:

The Australian Government does not support this recommendation. The recommendation has merit in that it may promote cultural change in larger organisations and thereby potentially increase business expenditure on R&D. However, the proposal would require wholesale changes to existing legislation and departmental responsibilities. Further analysis suggests the proposal would substantially increase compliance and administration costs for the Australian Government and the majority of companies currently claiming the R&D Tax Concession.

In addition, the recommendation appears to benefit mainly larger foreign-owned companies with larger than average R&D expenditures, but who are only a small proportion of the total number of R&D Tax Concession claimants. Therefore, the necessary changes to the legislation and administration of the Tax Concession would have little benefit for, and would be an undue burden on, the majority of the current users of the Tax Concession.

Recommendation 21

The committee recommends that businesses be provided with greater certainty about the continuity of the Commonwealth government's R&D support programs, by ensuring that the programs are maintained for rolling periods of not less than five years.

Response:

The Australian Government recognises the need to provide a degree of certainty in the delivery of R&D support programs. The current budget process is generally based on a four-year cycle (current financial year plus three years forward estimates). However, the duration of individual programs depends on particular circumstances and is assessed on a case-by-case basis, including the discretion to alter, redirect or even terminate a program where appropriate.

Recommendation 22

The committee recommends that the Commonwealth government simplify and minimise the data requirements of companies registering for the tax concession or applying for R&D grant assistance, and specifically:

- *reduce the number of government agencies requiring information from companies seeking R&D assistance (when possible, to a single contact point), with the agencies utilising enhanced data-sharing;*
- *minimise the length and complexity of registration and application forms;*
- *synchronise reporting cycles across agencies; and*
- *ensure consistent use of terms and definitions of terms in forms relating to R&D across agencies, including the Australian Bureau of Statistics.*

Response:

The Australian Bureau of Statistics (ABS), Australian Taxation Office and Department of Industry, Tourism and Resources (through AusIndustry) are already working toward harmonising data collection, reporting cycles and, where possible, reducing R&D data requirements from industry by the three agencies. The ABS and AusIndustry have undertaken data matching to inform on-going discussion of the issues by these agencies. They are exploring the possibility of using a single form that would serve for both registration for the R&D Tax Concession, where applicable, and for the ABS annual business R&D expenditure analysis and report.

Recommendation 23

The committee recommends that the Commonwealth government continue to simplify the various R&D programs and consider the introduction of a version of the Canadian Preclaim Scheme whereby businesses can get preliminary advice about their eligibility for the Government's R&D schemes.

Response:

The Australian Government is currently evaluating *Backing Australia's Ability*. This evaluation, together with the findings of a major science and innovation mapping exercise will inform the development of future measures to apply when *Backing Australia's Ability* expires in 2006. The broader issue of R&D programs will be

considered within the Australian Government's post-*Backing Australia's Ability* policy development framework.

While the introduction of a Preclaim scheme may have benefit for users of the R&D Tax Concession, its delivery would entail the expenditure of significant additional resources.

Recommendation 24

The committee recommends that the Commonwealth government ensure that regular evaluations of the R&D support programs take place, including assessment of the effect of tax concessions on the R&D outcomes of businesses.

Response:

As part of its budget framework, before considering the renewal of program funding, the Australian Government requires a comprehensive review of its programs to assess whether the original objectives of each program have been met and the grounds on which an extension is sought. Currently, the Australian Government is evaluating R&D support programs as part of on-going effectiveness reviews. Programs being evaluated include R&D Start, the R&D Tax Concession, the Tailored Assistance for Commercialisation stream of the Commercialising Emerging Technologies (COMET) program, the Biotechnology and Innovation Fund, the Innovation Investment Fund, the Building on IT Strengths Incubator Program, the Innovation Access Program and the National Innovation Awareness Strategy.

Recommendation 25

The committee recommends that the Commonwealth government encourage the development of measures that can serve as 'surrogates for productivity'. This would lessen dependence on Business Investment in R&D (BERD), which is a measure and not necessarily a good indicator of productivity, as well as contribute to the clearer identification of the results of government grants and subsidies, and provide fuller information of the success of converting research to innovation.

Response:

The Australian Government has a number of initiatives in place which provide information on Australia's research and innovation performance, including the "Innovation Scorecard" that clearly identifies the results of government grants and subsidies and presents a rounded picture of Australia's innovation performance. The government is currently considering further developing the Scorecard and publishing it every two years. It is anticipated that the new innovation survey will also cover several of the elements necessary to move away from the current strong dependence on proxies of innovation performance like business expenditure on R&D (BERD). (Although BERD will continue to be an important measure given both inputs and outputs need to be measured in order to obtain a clear picture of the efficiency of research expenditure and of the impact of R&D expenditure on economic growth).

In addition, the Prime Minister announced on 20 November 2002 that the Government would commence an exercise to map Australian science and innovation – a ‘stock take exercise’ never undertaken before. The report, *Mapping Australian Science and Innovation* was completed in November 2002. The findings of this initiative provides an overview of Australia’s science and innovation system as a whole and a comparison of Australia’s performance in many areas relative to that of other advanced economies for which information is available.

The ABS intends to continue to link business R&D and innovation data to other output indicators (both ABS and non-ABS) to enable an assessment of the impacts of R&D and innovation on productivity and other performance measures (such as profitability, business continuity).

Recommendation 26

The committee recommends that, in order to better assess the effect of R&D support programs (including the tax concessions), the Australian Bureau of Statistics add a question to its business survey form asking companies to estimate the increased turnover generated by their use of the tax concession and/or other R&D support measures.

Response:

The Australian Government does not support this recommendation. Requiring that businesses scrutinise their turnover in a detailed way would likely impose significant compliance costs, particularly on small businesses. The Australian Government is keen to reduce the administrative burden on businesses where possible.

Moreover, the increase in turnover generated as a result of Australian Government measures would be very difficult to estimate due to the multiplicity of factors that impact on a company’s total turnover. It may be many years after the R&D has occurred before benefits accrue. The benefits may also take forms other than increased turnover; for example, improved production methods, reduced staffing and lower production costs.

Recommendation 27

The committee recommends that the Industry Research and Development Board (IRDB) review the current guidelines for R&D Plans (required when registering for the tax concession) to provide that the Plans specify the technical risk factors and outline the risk mitigation strategies. To reduce the compliance burden on companies (especially small and medium-sized enterprises), the IRDB should provide a spreadsheet or similar template for carrying out net present value estimates and provide associated guidance.

Response:

The Australian Government does not support this recommendation. The introduction of a technical risk management plan into R&D Plans would introduce greater complexity, without any obvious benefit in a self-assessment context. The aim of introducing R&D Plans is to influence companies with no planning regime, through legislation, to undertake a minimal level of planning. The proposal for calculating net present value would not improve compliance. The R&D Tax Concession underwrites the technical risk of conducting R&D irrespective of the net present value.

Recommendation 28

The committee recommends that the Commonwealth government evaluate and consider extending the tax concession to cover the cost of intellectual property protection and patent applications for businesses that have already qualified for the tax concession.

Response:

The Australian Government does not support this recommendation. Some costs relating to patents, such as searching for patent applications, are already claimable as part of R&D costs under the R&D Tax Concession. However, the costs in respect of obtaining and renewing related to intellectual property protection and patent applications are generally regarded as commercial costs and, as such, are claimable as a cost of doing business.

The cost of intellectual property protection and patent applications are generally not included in the definition of R&D. This approach is consistent with the Organisation for Economic Cooperation and Development treatment of R&D.

Recommendation 29

The committee recommends that the Commonwealth government review the current eligibility criteria for the incremental tax concession to ensure that they maximise the conduct and take-up of business R&D, in particular, that the government consider the inclusion of essential non-labour R&D expenditure in relation to eligibility for the incremental tax concession.

Response:

The Australian Government does not support this recommendation. The R&D Tax concession is broad-based and available to all industry sectors. The 175% Premium (Incremental) R&D Tax Concession that commenced in July 2001 was introduced with the objective of encouraging additional investment in R&D, focussed on labour related R&D expenditure where the greatest benefits for the whole economy occur. Non-labour R&D expenditure is currently eligible for the 125% Tax Concession.

Recommendation 30

The committee recommends that the Commonwealth government, once the existing R&D programs have been fully evaluated, consider adjusting the present incremental or 'Premium' tax concession by:

- *ensuring that companies already conducting a high R&D expenditure relative to their turnover are eligible for the concession (thus maintaining the incentive to do R&D); and*
- *considering linking the tax concession regime to the national research priorities and/or to the particular industries in which Australia wishes to promote itself as a centre of excellence and/or to the high-growth areas of the economy and/or to whether the business is a small or medium-sized enterprise and/or to whether the R&D is undertaken collaboratively by the private and public sectors.*

Response:

The Australian Government does not support this recommendation. The concept of linking turnover to eligibility for a tax concession was examined as part of developing the tax concession measures for *Backing Australia's Ability*. It was rejected on the grounds that it could discriminate against companies who are in a tax loss situation, while the proposed linking of R&D expenditure to turnover for firms, could create perverse outcomes.

The R&D Tax Concession is a broad-based entitlement scheme which provides non-specific, indirect support for business R&D. This complements the suite of Australian Government innovation programs, some of which can be more readily linked to national research priorities. In general, firms operating across all sectors need to perform research and to innovate to remain competitive or increase their competitiveness. A significant proportion of business research is performed in response to direct and immediate market needs and circumstances. For this reason it would not be appropriate to limit the availability of the tax concession to research directed into certain areas, such as those defined by the national research priorities. The national research priorities define areas in which Australia needs large-scale and long-term research effort.

Recommendation 31

The committee recommends that the Commonwealth government enhance its promotion of the cash rebate (tax offset) program, especially to small and medium-sized enterprises, and industry associations.

Response:

The Australian Government, jointly through the Australian Tax Office and Department of Industry, Tourism and Resources, continues to promote the new measures, including the R&D Tax Offset, to small to medium enterprises and industry associations, both prior to and following their introduction in 2001. In addition,

targeted awareness sessions focussing on the R&D Tax Offset have been conducted nationally in 2003. These seminars have been aimed specifically at both current and potential R&D Tax Offset customers and their accountants, to provide further information about the claim process for the R&D Tax Concession Scheme, and the R&D Tax Offset component in particular, to help companies reduce their compliance costs and make correct claims. Promotion of the Offset remains a high priority in 2003-04.

Recommendation 32

The committee recommends that the Commonwealth government evaluate and consider adjusting the eligibility thresholds for access to the tax offset program.

Response:

The Australian Government does not support this recommendation. The thresholds are designed to target access to the R&D Tax Offset to small companies who are in tax loss and who cannot gain immediate benefit from the R&D Tax Concession. This recognises the need for these companies to maximise their cash flow when they most need it. Raising the thresholds would increase the level of R&D expenditure eligible for the Offset, which would have an increased impact on the revenue involved.

Since the R&D Tax Offset measure is only relatively new, having been introduced in 2001, it is too early to assess its full impact on stimulating R&D carried out by small to medium enterprises. A comprehensive review of the R&D Tax Offset will be undertaken in 2005.

Recommendation 33

The committee recommends that the Commonwealth government review its ongoing level of funding for the START program, in light of significant demand and the program's great success in assisting the establishment of small and medium-sized enterprises. Increased funding of programs like START and COMET might be particularly appropriate at times when the general profitability of business is constrained by a downturn in economic activity.

Response:

The Australian Government is currently evaluating *Backing Australia's Ability*. This evaluation, together with the findings of a major science and innovation mapping exercise, will inform the development of science and innovation measures to apply when *Backing Australia's Ability* expires after 2005. This recommendation will be considered within the Australian Government's post *Backing Australia's Ability* policy development framework.

Recommendation 34

The committee recommends that the Commonwealth government expand the grants-based START program by introducing a scheme that provides loans to early-stage companies, with the requirement that those loans be paid back if the venture is successful (but which enables the loans to be converted back to grants if the venture is unsuccessful).

Response:

The Australian Government is currently evaluating *Backing Australia's Ability*. This recommendation will be considered within the Australian Government's post *Backing Australia's Ability* policy development framework.

While supporting the need to assist early stage companies, the repayment options may be a disincentive to small, high growth companies. Concessional loans are already available under the R&D Start program to companies employing fewer than 100 people and which are involved in the early commercialisation of technological innovations.

Recommendation 35

The committee recommends that, in relation to BITS incubator seed funds, the Commonwealth government consider:

- *increasing the current eligibility threshold of \$450,000; and*
- *review the existing taxation treatment of the seed funds in order to maximise the encouragement of R&D by businesses.*

Response:

An evaluation of the Building on IT Strengths Incubator Program has been completed, including an examination of the key design factors that impact on the success of the incubators. The findings of this evaluation will be considered within the Australian Government's post-*Backing Australia's Ability* policy development framework.

Recommendation 36

The committee recommends that the Commonwealth government encourage universities to implement more flexible arrangements for university superannuation to remove an impediment to the movement of researchers between the public and private sectors.

Response:

The Australian Government agrees that the movement of people is often the most effective way to transfer technology, and the Australian Government's workplace relations agenda encourages universities to provide the flexibility to assist researchers to move between the public and private sectors.

University academic staff generally belong to three types of superannuation schemes – state based superannuation schemes; UniSuper; and (small) university based academic/professorial schemes. The state schemes were closed off for new members in 1991 and since then all new staff have been required to join UniSuper (previously the Superannuation Scheme for Australian Universities). State-based superannuation schemes are mostly unfunded and have defined benefits that are very attractive. The Australian Government has no influence over the transfer of serving members of state-based superannuation schemes who joined prior to 1991 (provided the state-based schemes allow for such transfer) to UniSuper; this is a personal choice for existing members to make. Given the ageing and decline of existing members of state-based schemes, there is no significant value in further Australian Government intervention in relation to state-based superannuation schemes.

The UniSuper scheme is portable and very flexible – members can stay with UniSuper even if they are no longer working in the higher education sector, or can roll over their benefit to another fund, a deferred annuity or approved deposit fund, or a retirement savings account.

In regard to movement of researchers from the private sector to universities, the Australian Government, through its workplace relations agenda, is encouraging universities to have flexible employment conditions (including Australian Workplace Agreements) for their staff. This should begin to provide flexibility for new staff joining universities.

Recommendation 37

The committee recommends that the Commonwealth government increase the incentives for researchers to work in businesses by:

- *promoting the Graduate START program more widely;*
- *providing within the Graduate START scheme an option whereby up to an additional 100 post-doctoral students could be placed in businesses with the cost shared equally between government and business;*
- *encouraging research bodies such as the CSIRO to regularly meet representatives of the companies that currently conduct a high level of R&D in Australia; and*
- *consider the use of tax rebates to businesses employing new graduates in R&D activities.*

Response:

The Australian Government is currently evaluating the *Backing Australia's Ability* initiative. This evaluation, together with the findings of a major science and innovation mapping exercise, will also inform the development of measures to apply following the expiry of *Backing Australia's Ability* in 2006. Future changes to the R&D Start programme will be considered within the Australian Government's post-*Backing Australia's Ability* policy development framework.

It should be noted that the Premium 175% (Incremental) Tax Concession, which provides incentives to increase labour related costs, encourages increased employment in R&D activities. The Australian Research Council (ARC) also has initiatives that support the broad intent of both parts (i) and (ii) of the recommendation. Elements of the ARC's Linkage-Projects program are designed to facilitate the mobility of personnel between various elements of the system including universities, industry and research agencies. For example, Australian Postgraduate Awards Industry (APAI) provide support for postgraduate research students studying towards a Masters or PhD award; and Australian Postdoctoral Fellowships Industry (APDI) provide support for researchers with less than three years postdoctoral experience.

In the 2003 funding round, the ARC awarded 412 new APAIs and 32 new APDIs. The ARC is also supporting 947 ongoing APAIs and 58 ongoing APDIs (awards and fellowships awarded in previous years).

In the course of research and research commercialisation activities, public research agencies are in close contact with Australian companies with active R&D programs. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) already meets on a regular basis with representatives of its large accounts and engages regularly with business through mechanisms such as its Sector Advisory Councils. In addition, CSIRO conducts a quarterly customer value survey to assess the ways in which its business and other clients view the organisation's performance. The Australian Nuclear Science and Technology Organisation and the Australian Institute of Marine Science also meet regularly with current and potential research collaborators in business.

Recommendation 38

The committee recommends that the Commonwealth and state governments take steps to increase the number of "research brokers" and technology diffusion coordinators in universities, industry associations and professional associations.

Response:

The Australian Government recognises the value of technology diffusion through its Innovation Access Program and other *Backing Australia's Ability* initiatives. The issues identified in this recommendation will be considered within the context of the *Review of the Knowledge and Innovation Reforms* announced on 17 July 2003.

The Queensland Government, through the Department of State Development, is finalising, at the time of writing, the Technology Diffusion Action Plan to promote technology investment and adoption through technology diffusion and transfer as an important alternative to traditional R&D.

Recommendation 39

The committee recommends that the Commonwealth government, business associations and the universities improve the way that intellectual property is handled by industry and universities by taking the following measures:

- *developing guidelines for public/private R&D collaborative projects;*
- *considering the introduction of appropriate revenue-sharing conditions into the award of some Australian Research Council (ARC) grants to enable researchers and universities to hold the licence to exploit their intellectual property; and*
- *the ARC considering making 'closed' R&D programs eligible for ARC grants (if only under certain specified circumstances).*

Response:

Guidelines to best practice intellectual property (IP) principles have already been prepared by most of the institutions identified in the recommendation. The *National Principles of Intellectual Property Management for Publicly Funded Research* were developed in 2001, and requirements for compliance with them have been incorporated into Australian Research Council (ARC) and National Health and Medical Research Council funding agreements. In addition, to access research funding for Cooperative Research Centres (CRCs), universities are required to submit information on their IP policies and commercialisation strategy.

The existing guidelines for the management of public sector R&D already address the protection and exploitation of IP to the benefit of the Australian economy. Providing greater impetus to public/private collaborations would be useful. The ownership and assignment of rights should be developed on the basis of flexibility and the particular needs of a region or institution. However, the Australian Government will consider whether there is a need to develop further guidelines relating public/private R&D projects.

The Australian Government notes that programs which fund collaboration between public sector researchers and industry (including CRCs and some Major National Research Facilities) require the parties to develop arrangements for managing intellectual property, including sharing the benefits of commercialisation. These arrangements need to be approved by the Australian Government and demonstrate how they will maximise the national benefits accruing to Australia. The same observation applies to the introduction of appropriate revenue sharing arrangements on ARC grants.

While the Australian Government accepts that there are perceived tensions between the goals of excellent research and commercialisation, maintenance of the balance between these goals is an issue which needs to be addressed by universities in managing the relationship between the partners involved in a research project. This is generally achieved through the preparation of collaborative research agreements whereby the expectations of both parties are clearly identified and agreed prior to the commencement of the research project.

The ARC itself does not place any requirements on applicants for its programs that represent a barrier to the commercialisation of research. The requirement for research projects to demonstrate 'national benefit' for example, does not mean that results of a commercially sensitive nature must be open to the public.

Recommendation 40

The committee recommends that the Commonwealth government's 'Review of Closer Collaboration between Universities and Major Publicly Funded Research Organisations' examines how to encourage the research bodies to 'partner' with small and medium-sized enterprises, including the provision of equity.

Response:

The Review of Closer Collaboration Between Universities and Major Publicly Funded Research Agencies considered partnering between research bodies, but the Review Committee regarded the specific issues of partnering with SME's and provision of equity as outside its scope. The Review Committee has made a number of high level recommendations in its report to the Minister for Education, Science and Training that it believes will foster closer collaboration between universities, research agencies and industry partners more generally. The Government is considering its response to the Review.

Recommendation 41

The committee recommends that the Commonwealth government encourage universities to take the following measures to improve their governance arrangements so that they are less averse to commercialisation of their research:

- *facilitate the flow of block grants to their associated business entities rather than through the university's financial system;*
- *allow for flexible funding arrangements where commercially sensitive technology is involved; and*
- *permit their staff to earn income above their usual salaries.*

Response:

Governance arrangements in universities were examined in the context of the recent policy document *Our Universities: Backing Australia's Future*. Institutional planning and reporting is also addressed in other Australian Government policy documents, such as *Knowledge and Innovation: a policy statement on research and research training*. *Knowledge and Innovation* introduced the requirement for universities to annually report to the Australian Government through Research and Research Training Management Reports (RRTMR). These documents outline the research profile and strategic direction of each Australian higher education institution, including information on managing research performance, collaboration, intellectual property and commercialisation. The RRTMR also asks universities to report on any

innovative commercialisation approaches it has adopted, including incentives for researchers engaging in the commercialisation process.

The Australian Government, while providing block funding for university research and research training through a number of schemes under the *Higher Education Funding Act 1988*, does not direct the individual research activities of universities or other higher education institutions. Universities are autonomous institutions that are responsible for setting their own priorities and determining the allocation of funding between various faculties and centres. It is not the Australian Government's role to either direct, or be involved in, the allocation of funding to individual centres, faculties or schools, or researchers within each university. However, there are currently no impediments to universities choosing to implement the measures described in points one and two of this recommendation in their administration of block funding received from the Australian Government.

It should be noted that an *Evaluation of the Knowledge and Innovation Reforms*, commissioned by the Minister for Education, Science and Training was conducted in 2003. The evaluation reviewed the operation, policy and funding framework for Australia's block research funding schemes - the Research Training Scheme, the Institutional Grants Scheme, and the Research Infrastructure Block Grants Scheme. The evaluation report is currently being considered by the Minister.

In relation to point three of this recommendation, it is further noted university intellectual property policies, in the main, already provide for revenue arising from commercialisation of intellectual property to be shared with originating staff.

Recommendation 42

The committee recommends that the Australian Research Council make publicly available the information it holds on research which has been judged as being of high quality and which is likely to deliver national benefits.

Response:

The Australian Research Council (ARC) believes that providing access to information about ARC-funded research could assist venture capitalists to make decisions about whether or not to pursue the owners of IP associated with research sponsored by the ARC, with a view to investing in the commercialisation of that research. Consequently, the ARC makes available on its website lists of successful applicants for ARC funding. The information provided includes the researchers' names, their institutional affiliation, the funding awarded, the discipline area of the research and a short abstract of the proposed research project.

To improve the accessibility of this information to venture capitalists or other interested parties, the ARC, during 2001-02, explored possible mechanisms to broker relationships between researchers and investors by providing information about its portfolio of grants. It decided that, as a first step, it would make the information currently provided on the website available through a 'searchable' database. A 'first-generation' database is now available on the ARC's website.

The development of a more sophisticated database will be considered in the context of implementing a new Application and Grants Management System for the ARC. Development of the new system is currently underway and implementation is expected to be completed by 2005. The new system will provide a more flexible framework for knowledge management by the ARC.

Recommendation 43

The committee recommends that the Commonwealth government promote the involvement of small and medium-sized enterprises (SMEs) in Cooperative Research Centres, especially by way of non-cash contributions and through associations representing a number of SMEs within an industry.

Response:

The Cooperative Research Centre (CRC) program guidelines already encourage the involvement of SMEs in CRCs. The guidelines also require either cash or in-kind sponsorship from all participants. It is noted that some SMEs have elected to form alliances with larger organisations in order to work collaboratively with CRCs.

Applicants for the 2002 funding round were encouraged to involve SMEs in proposals and to develop linkages with SMEs to facilitate technology transfer. Applications were required to specifically address SME involvement in the CRC through direct or indirect participation, involvement in the application of research outputs, commercialisation, technology transfer or utilisation, including where appropriate, the spin-off of new SME companies. Supplementary funding applications were also required to address SME involvement. Those that provided for an appropriate increase in SME participation, through mechanisms such as expanding associate programs, where SMEs would have access to research information generated from the CRC, were particularly encouraged. This issue will be further considered in the context of the Australian Government's response to the evaluation of the CRC program.

Recommendation 44

The committee recommends that AusIndustry monitor the expenditure by CRCs on projects involving the universities to ensure that the smaller, often regionally-based universities are able to participate fully in the CRC program.

Response:

A substantial number of Cooperative Research Centres (CRCs) operate in regional Australia. More than half of all CRCs undertake at least some of their research in regional areas. Regional universities are heavily engaged in a range of CRCs, especially in the agriculture and rural based manufacturing sectors.

It is noted that portfolio responsibility for the CRC program now resides with the Department of Education, Science and Training.

Recommendation 45

The committee recommends that the Commonwealth government encourage Research and Development Corporations to increase their commercial expertise by:

- *employing managers with commercial skills;*
- *establishing commercial entities based on their research; and*
- *possibly registering a greater number of entities under the Corporations Law.*

Response:

The Australian Government does not support this recommendation. Research and Development Corporations (RDCs) exist primarily to deliver the benefits of R&D to their industries and not to become commercial entities primarily concerned with garnering income from the technologies they develop. RDCs are empowered to form companies, enter into joint ventures with the private sector, and generally act in a commercial manner. The same applies to the private, industry-owned RDCs operating under Corporations Law. Within larger RDCs there may be considerable commercial activity. Smaller corporations have fewer opportunities to pursue commercialisation and cannot afford to dedicate staff to such tasks.

The Australian Government is concerned to ensure that the correct balance between intellectual property protection, commercial profits, the public interest and the right of the rural industry to benefit from the R&D that it helps fund, is achieved. The RDC Board is the best arbiter in balancing these competing concerns.

Recommendation 46

The committee recommends that the Commonwealth government:

- *promote the opportunities for very early phase commercialisation by university researchers (such as developing a prototype) under the existing R&D programs; and*
- *encourage the study of commercialisation as part of the relevant undergraduate courses.*

Response:

Early phase commercialisation is already supported under *Backing Australia's Ability*. Specific initiatives already in place include: the Pre-Seed Fund for universities and public sector research agencies to advance research to a venture capital stage; the Commercialising Emerging Technologies (COMET) Program; the Biotechnology Innovation Fund; and the New Industries Development Program.

The Pre-Seed Fund is designed to encourage commercialisation and private sector investment in university and public sector research at the early phase of commercialisation. Assistance available through the COMET program also focuses on this very early phase of commercialisation, and provides support for processes such as strategic business planning, market research, proven technology and a

working prototype. The Biotechnology Innovation Fund and the New Industries Development Program are accessible to eligible university researchers. While COMET does not directly support university researchers, it is targeted at spinout firms, thereby supporting early stage commercialisation of university research in the commercial environment of a company. In addition to these *Backing Australia's Ability* programs, the Building on IT Strengths Incubator program assists with commercialisation, enabling participants to inject seed capital into their ICT start-up companies.

The Australian Government is currently evaluating *Backing Australia's Ability* to inform the development of measures to apply upon its expiry after 2005. Future changes to Australian Government support for early phase commercialisation will be considered within the governments post-*Backing Australia's Ability* policy development framework.

In regard to the study of commercialisation as part of relevant undergraduate courses, it should be noted that universities, as autonomous institutions, are responsible for course content. Nevertheless, appropriate opportunities will be taken to promote the study of commercialisation, including through the Australian Institute of Commercialisation.

Recommendation 47

The committee recommends that, in order to reduce ambiguity about eligibility for the R&D tax concession and to facilitate R&D that involves small innovative steps, the Australian Government consider amending Section 73B(2B) (i) of the Income Tax Assessment Act broadly along the following lines :

'Whilst it may be possible to estimate the probability of obtaining the technical or scientific outcome on the basis of current knowledge and experience, this probability is sufficiently low that the investment is unlikely to go ahead without the benefit of a special tax treatment for the investment.'

Response:

The Australian Government does not support this recommendation. The current definition of R&D is consistent with the Organisation for Economic Cooperation and Development treatment of R&D.

Recommendation 48

The committee recommends that the Commonwealth government review the current definition of R&D to ensure that its technological orientation continues to be relevant to the type and extent of innovation occurring in Australia and, in particular, that it recognises the importance of R&D in the services sector.

Response:

The Australian Government does not support this recommendation. The Australian Government recognises that services are a major component of the domestic economy and the trade in services is increasing rapidly. The Organisation for Economic Cooperation and Development definition of R&D used by the Australian Bureau of Statistics (ABS) includes research in the social sciences and humanities fields as well as in the fields of natural sciences, technologies and engineering. Companies in the services sector are included in ABS R&D surveys. The ABS survey of R&D for 2001-02, *Survey of Research and Experimental Development Business Enterprises 2001-02*, issued on 7 August 2003, recorded a 21 per cent increase in R&D expenditure by the Property and Business Services Industry in 2001-02 compared with 2000-01.

Innovation programs such as the R&D Tax Concession are accessible to the services sector, and are currently used by service companies, especially in the communications, information technology, finance and defence sectors.

The Mining Technology Services Sector Action Agenda recognises the sector's importance to Australia's minerals industry, and innovation issues will be considered as part of the Australian Government's medium to long term strategy for the Tourism White Paper.