



RBR 4/01 Innovation Strategies of the Queensland and Commonwealth Governments

An appreciation of the importance of innovation is evident in the Innovation Strategy of the Queensland government released in February 2000. An integral part of the Innovation Strategy is the government's desire to promote Queensland as a 'Smart State' where information technology, telecommunications technology, and biotechnology are targeted as sectors that will play a leading role in employment and economic growth.

The Queensland government is also acutely aware of the need to foster an innovative culture within mature traditional industries and has as part of the Innovation Strategy developed programs to foster research, development and commercialisation of new and improved products and services offered by traditional sectors of the State economy.

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1. INTRODUCTION

Numerous writers have pointed out the inter-relationship between technology and economic growth.¹ From an economic perspective, performance is greater the more scientifically and technologically advanced a society is. Research and development make significant contributions to economic growth by stimulating improved methods of production, and new products along with new industries. This is mixed with expertise in management and marketing and venture capital raising. This whole process can be termed the process of innovation.

There is no doubt that the largest part of the endeavours that drive technical change are geared toward the industrial and commercial sectors. If one country stands out as an example of this, it is Japan. A very important factor has been the readiness of Japanese society to absorb many ideas from abroad. This fact has manifested itself within the Japanese business sector by the use of technology transfer channels such as licensing and direct investment.

2. WHAT IS INNOVATION?

A descriptive definition of what innovation is has been produced by the Organisation for Economic Cooperation and Development (OECD) and incorporates both technological and organisational improvements:

*Innovation encompasses new products and processes and significant technological products and processes. Innovation has been implemented when it has been introduced to the market and is known as product innovation or is used within a process which is known as process innovation. Innovation may therefore involve a sequence of scientific, technological, organisational, financial and commercial activities.*²

A simpler definition of innovation is that it is simply a different and perhaps a better way of doing things. Such a definition recognises that innovations can range from very small changes that attract little or no attention to high profile changes that attract much attention.

¹ Robert Sanders, 'Selected Problems and Issues', in Robert Sanders (ed.), *Science and Technology: Vital National Resources*, Lomond Books, Maryland, 1975, p 11.

² Australia. National Innovation Summit, *Innovation Australia*, Proposal of the Institutional Structures Interfaces Working Group to the National Summit, Melbourne 10-11 February 2000. http://www.isr.gov.au/industry/summit/scwg/innovation_incentives/index.html Downloaded 22 September 2000.

Much innovation is in fact low key and is known as incremental innovation as it amounts to a small addition to a process that is already in use or a product that is already being produced. In this way, incremental innovation is aimed at improving an existing product and/or process that hopefully results in greater efficiency and/or higher productivity for the firm.

3. UNDERSTANDING R&D AND INNOVATION

The innovation process is now viewed by researchers as extending beyond pure research and the generation of new information that flows from research, into the production and marketing of new and improved products. The use of new production techniques is also viewed as a formal and relevant part of the innovation process. Hence the innovation process also includes the production of new products and new ways of producing old products. A product may not be new but perhaps the firm has never produced it before. Consequently the firm is being innovative.

Since research and development (R&D) is generally viewed as an integral part of the innovation process, R&D expenditure has come to be regarded as input. Consequently, the measurement of these inputs will give an “insight” into the potential level of innovation taking place. However, a complete picture will not be possible because innovation does not always result from formal and concerted R&D programs. Not every innovation is the result of R&D and not all R&D results in innovation.

However commendable the R&D effort may be, it will not provide the desired economic gains unless the outcomes are marketed commercially. At the commercial level, firms will not be innovative unless possible profits can be identified.³

Whilst R&D is associated with successful innovation it does not by itself give a guarantee of success. Positive social benefits arising out of the innovation process will depend on the speed and extent of utilisation. This in turn leads to the central debate as to the types of government programs that are best likely to encourage the optimum level of diffusion at least cost. To technological and innovation theorists the end result of innovation is diffusion.

A society that fosters a culture of ideas resulting in the generation of ideas still needs to act on those ideas. To act on ideas, technological change needs to be

³ N Cooray, ‘Technological Innovation and Internationalisation of Australian Manufacturing Industry’, *Economic Papers*, 11(2), June 1992, p 55.

accepted and fostered through government programs that will lead to the commercialisation of those ideas that have been developed.

4. EMPHASIS ON COMMERCIALISATION

The innovation process consists of the three components of research, development and commercialisation. To the business community, the end result of innovation is commercialisation. The commercialisation of the results of research is just as important as the research itself.

The most common cause of failure to commercialise is a lack of knowledge of the market and a failure to relate technical development to the needs of potential users or consumers. It has been recognised for some time that there is often a lack of marketing and business management skills in the private sector.⁴

Governments in the past have tended to introduce programs in support of R&D at the expense of assisting commercialisation. The effectiveness of R&D is greater when it is backed up by commercial expertise ensuring that innovative technology and products are disseminated as widely as possible.

5. CURRENT KNOWLEDGE ABOUT THE INNOVATION PROCESS

Over time, research into the innovation process has shed new light into the dynamics of the process. A greater understanding of the process has resulted in a new perspective based on facts such as:

- There can be no universal model of innovation because diversification is an intricate part of the process.
- The central aspect of innovation is the recognition that it is a managerial and organisational issue.
- There is no direct link between science, technology and innovation.
- Knowledge acquisition is a key element of the learning process.
- Firms, industries and nations should not be viewed in isolation to each other.
- Innovation within organisations and management is as important as technical innovation.

⁴ John Stewart, 'Science, Technology and Industry Policy: Are we in the Race?', in John Stewart (ed), *Federalism and Public Policy: The Management of Science and Technology*, Federalism Research Centre, Canberra, 1992, pp 87-98.

These aspects are recognised and catered for by Rickards in his systems model of innovation⁵ whose key aspects are:

- Innovation operates within an integrated system where technology is linked to social, political, environmental and commercial aspects.
- Innovation is a sequence of discontinuity through incremental or small changes.
- Much innovation occurs in the course of problem solving.
- Innovation is situational in nature and each example is a product of its own situational factors.
- Successful innovation requires appropriate organisational structures.
- Innovation involves extensive negotiation and participation through human networks.
- Innovation is inseparable from information.

6. QUEENSLAND'S INNOVATION STRATEGY

The Innovation Strategy was launched in February 2000 with one of its aims being to encourage Queensland companies to invest in research and development of products and services that would be commercially viable. The strategy provides the framework and direction of the government's activities in innovation and technology.⁶ It was released publicly via the *Innovation-Queensland's Future* document.⁷ The strategy contains a number of individual components which are in turn supported by specific programs. The components of the Strategy mesh together or complement each other to achieve the stated objective of fostering innovation. The Strategy's components are grouped under four headings:

- (1) The **advancement of technology infrastructure** to be achieved through:
 - the Cooperative Research Centre Facilitation Program; and
 - collaborative Innovation Ventures program

⁵ Tom Rickards, *Stimulating Innovation: A Systems Approach*, Frances Pinter, London, 1985.

⁶ Queensland. Department of State Development, *Annual Report 1998/1999*, p 21.

⁷ Queensland. Department of State Development, *Innovation – Queensland's Future*, 2000.

- technology Research Parks
 - Queensland Manufacturing Institute
 - Queensland Clunies Ross Centre
- the fostering of technology precincts
- the establishment of an Institute of Molecular Bioscience; and
- the fostering of the adoption of e-commerce by business and the wider community.

(2) The **development of skills** to be achieved through:

- education at primary and secondary level through the ‘new basics’ curriculum containing studies in:
 - life pathways and social futures
 - multiliteracies, numeracies and communications media
 - active citizenship; and
 - environments and technologies
- at the tertiary level working with universities to foster the teaching of subjects focusing on enterprise education for skill development in the management of innovative enterprises
- an increased emphasis on vocational education studies to foster the development of managerial expertise for small to medium size firms.

(3) The shortfall in **funding of innovative endeavours by the private sector** through:

- the fostering of a venture capital market for seed and start-up investments
- the provision of investment readiness programs for small to medium size enterprises and entrepreneurs for the development of skills to enable equity investment to be attracted
- the creation, in conjunction with the private sector, of an entrepreneurialship centre to facilitate the commercialisation of intellectual property from research institutions
- the development of a technology incubator program
- the establishment of an innovation start-up scheme for pre-seed funding
- the establishment of a business angels group in conjunction with the private sector.

- (4) The **fostering of an innovative culture** through:
- the promotion of innovation through regional State Development centres
 - the sponsoring of events that promote the benefits of innovation
 - the sponsoring of major technological exhibitions
 - ensuring innovation in public sector service delivery
 - the commercialisation of intellectual property developed in the public sector
 - the establishment of the Queensland Innovation Council to provide advice on current and emerging issues relating to innovation.

6.1. QUEENSLAND INNOVATION COUNCIL

In November 1999 the establishment of the Queensland Innovation Council was announced.⁸ The primary task of the Council is to advise the Minister on the development and implementation of innovation and technology initiatives.

The Council has also been given a brief to focus on the effective use of innovation and technology strategies within the State's mature industries such as agriculture and mining for the purpose of increasing efficiency in those industries.⁹ Membership of the Council has been drawn from both the public and private sectors with the Minister being represented by his parliamentary secretary.¹⁰

The establishment of the Council in November 1999 was preceded by the release by a discussion paper in July 1999 by the Queensland Government, on the role of innovation in the future of the State.¹¹

⁸ Hon Jim Elder MP, Deputy Premier, Minister for State Development and Trade, 'Innovation Council set up to promote high-tech jobs', Media Release, 25 November 1999.

⁹ Hon D J Hamill MP, Treasurer, Appropriation Bill 2000-2001, *Weekly Hansard*, 18 July 2000, p 2118.

¹⁰ Hon J Elder MP, Deputy Premier and Minister for State Development and Trade, 'Innovation Council set up to promote high-tech jobs', Media Release, 25 November 1999. http://www.asto.com.au/qld_innov_counc.htm Downloaded 19 September 2000.

¹¹ Queensland. Department of State Development, 'Innovation - Queensland's Future', Discussion Paper, July 1999.

6.2. SOME INITIATIVES UNDER THE QUEENSLAND INNOVATION STRATEGY

The Innovation Strategy incorporates a list of 25 initiatives aimed at advancing infrastructure, developing skills, funding innovations, and establishing a culture of innovation.¹² Some of the initiatives are:

6.2.1. Innovation Start Up Scheme

This scheme commenced in the 1999/2000 financial year and is described as a 'pre-seed' funding scheme for the development of innovative ideas generated from public sector research institutions.¹³ The objective of the scheme is to facilitate the formation and development of highly innovative new companies with newly-emerged technology products and/or services. An additional objective of the scheme is the commercialisation of new technologies that have been developed by new start-up companies and individuals.

These objectives are to be achieved by the provision of seed funding to assist with development expenses. The first year grants totalled \$723 880 with this amount being allocated among 10 of the 98 applications that were received for that year. An amount of \$750 000 was allocated for the financial year 2000/2001. The maximum amount of financial assistance that may be granted to an applicant company or individual is \$75 000. The successful applicants are chosen via a competitive merit-based selection process.

Under the first year of grants approved there were two companies researching and developing medical technologies, one company researching and developing geological drilling technology and one company researching and developing a user safety system for large wood chipping machines.¹⁴

6.2.2. Technology Incubator

Australia's first technology incubator was opened on 13 September 2000. Located in Toowong, the facility can house up to 15 new start-up companies that

¹² Queensland, Department of State Development, *Annual Report 1999/2000*, p 36.

¹³ Queensland. Department of State Development, 'Innovation - Queensland's Future: Creating a State of Opportunity', Policy Statement 2000, p 39.

¹⁴ Queensland. Department of State Development, *State Development 2000*, August 2000, p 3.

can stay at the facility for up to two years. Approximately 60 applications had been received for places within the facility.

Companies selected for tenancies will be those attempting to develop a new technology product for which there is a perceived market. The incubator facilitates access to the latest technology, expertise in information technology, and other incubators located overseas.

The first 7 companies to move into the facility are characteristically developing information technology products. Products in such areas as the recording of the serial numbers of bank notes, broadcast-quality animation over the Internet, software for the presentation of real property for use by architects and property developers, and the booking and tracking of orders over the Internet by consumers.

Capital outlay for the facility by the State government has been \$3.75 million.

6.2.3. Technology Research Parks

There are four technology parks owned and operated by the State government. They are Brisbane Technology Park, Mt Gravatt Technology Park, Gold Coast Technology Park and the Townsville Aviation Technology Park. Combined, these parks represent a total investment of \$28 million of State government funds. Technology parks are geographically identifiable areas designed to:

- promote the establishment of technology based firms
- encourage research and product development
- promote technology transfer and the exchange of knowledge along with the development of supply chains and the creation of partnerships; and
- provide advantages associated with clustering of like firms such as access to specialist infrastructure and facilities.¹⁵

6.2.4. Queensland Manufacturing Institute

The State government funds the Queensland Manufacturing Institute which is located in the Brisbane Technology Park. The Institute promotes and assists the adoption of appropriate technologies through collaborative research and development. The Institute is also a point of contact for technology support services, consultancy services, technology evaluation and piloting. The 1999-

¹⁵ Queensland. Department of State Development, Policy Statement.

2000 Budget allocated \$1.4 million to the Queensland Manufacturing Institute to assist over 1000 Queensland firms with technology diffusion services.

7. THE 'SMART STATE' STRATEGY AND INNOVATION

The Queensland Premier unveiled the Smart State strategy in a speech made to the Biotech 99 Conference conducted in Seattle in May 1999.¹⁶ The Smart State plan was the result of consultations between industry groups, educational authorities, government bodies and information technology stakeholders.¹⁷ The foundations of Smart State are the established (and fast growing) information technology sector and the emerging biotechnology sector. Advancement in both of these areas is being complemented by the State Education Strategy 2010 which is also a major element of the innovation strategy.

The 1999 State Budget was described by the Premier as:

...a landmark Budget that establishes Queensland as the Smart State by providing strategic investment in exciting new industries and education...

This budget brings record expenditure on education and training programs that provide the skills, knowledge and attitudes required in the information economy.

It nurtures emerging, knowledge-based industries such as biotechnology through strategic investment in Queensland's research infrastructure.

...it promotes the development of the communications and information industry to provide sustainable, highly valued employment.

...this Budget will see us develop an industry culture focussed on innovation and the adaptation of our research and knowledge for commercial purposes...¹⁸

7.1. FUNDING FROM THE STATE BUDGET 1999-2000

The Department of State Development is the leading agency in fostering industry opportunities and development. It provides services to industry through a range

¹⁶ Rodney Chester, 'Gene Futures', *Courier-Mail*, 16 October 1999, p 25.

¹⁷ David Hellaby, 'Smart State gets \$1bn', *Courier-Mail*, 7 September 1999, p 22.

¹⁸ Hon PD Beattie MP, Premier, Appropriation Bill 1999-2000, *Queensland Parliamentary Debates*, 14 September 1999, v 352, p 3818.

of support programs aimed at developing a culture of innovation and technology diffusion in order to maintain competitive industries.

7.1.1. Biotechnology

The government has developed a ten-year plan for the development of a biotechnology industry in Queensland as part of its 'Smart State' strategy.¹⁹ The objective of the strategy is to make the State a leader in the development and commercialisation of biotechnology.²⁰ The government announced that \$270 million would be expended to implement the biotechnology plan over a 10 year period. Under the Strategy, the 1999-2000 budget allocated:

- \$15 million to support the construction of The Institute of Bioscience at the University of Queensland where 700 researchers would be employed. This would be supported by an additional operational funding allocation of \$77.5 million over 10 years to attract key research staff along with the development of strategic research programs.
- The Centre for Biomolecular Science and Drug Discovery at Griffith University received the first allocation of what will be \$8 million over four years.
- The Comprehensive Cancer Research Centre at the Queensland Institute for Medical Research received an allocation of \$5 million, the first of a total commitment of \$20 million toward the \$55 million cost of establishing the Centre.
- \$800,000 was allocated for laboratory facilities at the Princess Alexandra Hospital to be leased to private pharmaceutical companies to allow research to be conducted on the commercialisation of new drug delivery technologies.
- \$200,000 towards the joint funding of a Bachelor of Biotechnology Innovation course at the Queensland Institute of Technology.

The State government has also established the Biotechnology Innovation Fund that will be used for the distribution of federal funds allocated to the Biotechnology sector in the 2000/2001 federal budget. In this regard the federal government allocated \$30.5 million for the period 2001-2004. At the national

¹⁹ Queensland. Department of State Development, *Queensland Bioindustries Strategy 2000 and Beyond*, August 2000. Downloaded 6 March 2001 from.
http://www.statedevelopment.qld.gov.au/invest/information/opportunities/biotech/taskforce/biotech_strategy.pdf

²⁰ Queensland. Department of State Development, August 2000, p 2.

level, the funds will be controlled by Biotechnology Australia which is controlled by a collaboration of 5 federal government departments.

The aim of the Fund is to raise the level of commercialisation of Australian biotechnology R&D and to raise the financial return to Australia through intellectual property rights. The Fund will provide up to 50% of project costs with the other 50% being met by the applicant organisation or through co-funding provided by the States and Territories.²¹

Not surprisingly, stakeholders in the Biotechnology sector have welcomed the support of the Queensland government. Professor John Funder, Director of the Baker Institute of Medical Research located in Melbourne, has described the government's investment in biotechnology as 'far sighted'²² whilst the managing director of a Brisbane based biotechnology company described the Queensland's government's support as a step in the right direction as governments around the world are investing heavily in the biotechnology industry.²³

7.1.2. Information technology

The Queensland government also allocated \$3 million (\$10 million over three years) for investment in research into advanced computing technology by the University of Queensland.

In line with a greater emphasis on information technology, the Electronic Service Delivery strategy received funding of \$8 million (with a further \$9 million to be allocated over the next three years). This allocation is to allow Queensland government agencies and departments to develop and implement electronic service delivery projects providing a range of on-line government services.²⁴

²¹ Biotechnology Australia, *National Biotechnology Strategy: National Consultations on the Biotechnology Innovation Fund*. Downloaded 8 March 2001 from http://www.biotechnology.gov.au/Community_Issues/Ministers/ministers.asp

²² Helen Meredith, 'A new kid on the biotech block', *Australian Financial Review*, 6 October 1999, p 5.

²³ Lachlan Heywood, 'Old versus new in industrial revolution', *Courier-Mail*, 16 September 1999, p 11.

²⁴ Queensland. *State Budget 1999-2000: Departmental Services Meeting Community Needs*, Budget Paper No 4, p 18.

7.1.3. Education and training

Information technology is a major segment of the *Queensland State Education – 2010 Strategy*. The 1999/2000 budget allocated \$5 million (with a total of \$40 million over four years) to the Networked Learning Community Program. This program is designed to enhance learning outcomes through the use of information technology. The initial focus will be on the professional development of teachers in schools and the provision of technical support for teachers. Education Queensland is aiming for a student/computer ratio of 1:5 in State secondary schools by 2001-2002 and 2003-2004 for State primary schools.

Another major goal of the *State Education 2010 Strategy* is increased student retention rates at grade 12 from 68% to 88% by 2010. \$6.8 million was allocated in 1999-2000 for trial funding of *New Basics* to be introduced into some State primary schools. *New Basics* focuses on the development of critical reasoning, problem solving and life long learning skills with application to real life tasks and activities.²⁵

Colleges of Technical and Further Education (TAFE) were allocated \$2.6 million to identify skill gaps requiring attention in information technology and telecommunications and to assess the needs of the biotechnology sector for additional TAFE graduates.

The 1999-2000 budget allocated \$12.8 million to further develop information technology and telecommunications, including Internet services to promote service delivery.²⁶

7.2. FUNDING FROM THE STATE BUDGET 2000-2001

The Smart State strategy was continued in the State budget for 2000-2001. A further \$15 million in funding was allocated between the Institute of Bioscience, the Centre for Biomolecular Science and Drug Discovery, and the Comprehensive Cancer Research Centre. There was also \$1.6 million for the establishment of the Queensland Biotechnology Innovation Fund. The establishment of a Visualisation Centre at the Queensland Manufacturing Institute in support of knowledge based industries was funded to a level of \$2.6 million over 2 years.

\$28 million was allocated to industry assistance in the form of:

²⁵ Queensland. *Queensland the Smart State: Jobs for the Future*, July 2000, p 5.

²⁶ Queensland. Minister for Employment, Training and Industrial Relations, *State Budget 1999-2000: Ministerial Portfolio Statements*, p 31.

- cooperative Research Centres (\$3.9 million)
- targeted Industry Grants for the promotion of innovation in small to medium sized firms (\$12.2 million); and
- assistance to the meat processing industry to improve and increase the level of value adding to meat products (\$12.3 million).

Additional funding was provided for the development of the information technology and telecommunications industry. Funding for research into super computing capabilities conducted by the University of Queensland was continued.

The 2000 Budget allocated for the first time funds (\$15 million over three years) for the establishment of a Creative Industries precinct to be located at Kelvin Grove in Brisbane. Creative industries include design, film and television and the performing arts. The project is in collaboration with the Queensland University of Technology and is expected to require a total investment of \$60 million.

An allocation of \$3.3 million was made for the purpose of enhancing the uptake of e-commerce by the business community.²⁷

The budget signalled the allocation of a further \$15.2 million for future investment in information technology and telecommunications at TAFE colleges.²⁸

A Mining Centre of Excellence received establishment funding of \$10 million over two years toward the estimated total cost of \$20 million. The Centre's role will be to research technical, social and environmental issues confronting the mining sector.

8. GOLD COAST TO BRISBANE INFORMATION CORRIDOR AND THE COASTAL BROADBAND PROJECT

Information dissemination has become important to the private and public sectors as well as policy makers in government.²⁹ Networking of information technology is likely to result in increased innovation as a by-product of the important

²⁷ The Queensland government's strategy to promote e-commerce in the State will be the subject of a forthcoming paper by Nicolee Dixon.

²⁸ Queensland. Minister for Employment, Training and Industrial Relations, *State Budget 2000-2001: Ministerial Portfolio Statements*. p 31.

²⁹ Jeremy Howells and Joanne Roberts, 'From Innovation Systems to Knowledge Systems', *Prometheus*, 18(1), 2000, p 17.

information flows that are created.³⁰ Cheaper communication costs has realised gains in specialisations and allowed advances in innovations across the board.³¹ The goal of the Queensland government in the promotion and facilitation of the coastal broadband project is a lower competitive price for the end-user.³²

In March 2000 it was announced that a fibre optic cable network linking Gold Coast City to Brisbane would be laid. The aim is to create first class access for business and IT research development companies to the e-commerce arena. The project is to be financed as a joint venture between the defence specialist company Boeing Australia and the communications company Power Tel of which Energex (Qld) is one of four shareholders.

The aim is to provide an integrated voice, data, video and wireless network between Gold Coast, Brisbane and points in the United States with further point access to France and the United Kingdom. The Gold Coast City Council envisages that the project will encourage information technology companies to establish a presence in the area.³³ In October 1999 fibre optic access between Sydney and Brisbane running through Newcastle, Singleton, Tamworth and Toowoomba was opened.

Fundamentally, the basis of the growth of the information technology sector is increased demand for information and information networks. The passing of information is an integral element of the innovation process. Information is both a product of, and an input into innovation.³⁴ Information technology networking

³⁰ Thomas Mandeville, 'The Economics of Information Technology Networks and Innovation', Discussion Paper in Economics, No 64, University of Queensland, Department of Economics, June 1991, p 13.

³¹ Wolfgang Kasper, *Building Prosperity: Australia's Future as a Global Player*, The Centre for Independent Studies, 2000, p 12.

³² 'High-Speed Communication Cable Accelerates Competition as Queensland Looks to Become a Major International Fibre Optic Hub', *Asia-Pacific IT Magazine*, 2(1), 1 March 2000, p 5.

³³ Justine Nolan, 'Gold Coast rides IT wave with 'smart' cable plan', *Courier-Mail*, 4 March 2000, p 13.

³⁴ Gillian Dempsey, 'Revisiting Intellectual Property Policy: Information Economics for the Information Age', *Prometheus*, 17(1), 1999, p 36.

can be classed into three specific categories:

- In-house networks
- Industry and inter-industry networks
- On-line services networks.

The Coastal Broadband project is another major project due for completion in April 2001 for the provision of information technology infrastructure. The Queensland rail corridor has been used to lay the fibre optic cable linking between Brisbane and Cairns. The partners in the project are the Queensland government (provision of the corridor), Reef Networks (cable provision) and Optus Networks who will provide communication services such as the Internet.³⁵

A similar project is in the planning stage to lay a fibre-optic cable along the PNG – Queensland gas corridor which will be constructed, operated and owned by AGL and Petronas. The pipeline corridor will take a more inland route than the coastal link from Brisbane to Cairns. The Queensland leg of the pipeline corridor will run between Cape York and Gladstone, a distance of 2 100 kilometres.

9. COMMONWEALTH STRATEGIES

The Commonwealth government has thus far produced three strategies designed to promote investment in research, development and innovation. These three strategies have been:

- *Investing in Growth* was a strategy unveiled in December 1997. This strategy increased support for business innovation by allocating funding of \$1.26 billion over a four year period commencing with the 1998-1999 financial year.
- *Knowledge and Innovation* released in December 1999 introduced a policy framework for the funding of research in higher education and research training.
- *Backing Australia's Ability* was released in February 2001 where it was announced that the Commonwealth would provide an additional investment of \$2.9 billion over five years.

The Commonwealth also introduced the following measures:

- Health and medical research was allocated a further \$614 million over a six-year period commencing in 1999-2000 financial year.

³⁵ *Asia-Pacific IT Magazine*, 2(1), 1 March 2000, p 5.

- Biotechnology Australia was established in 1999 which was followed in July 2000 with an additional \$30 million over three years for research into biotechnology.

9.1. NATIONAL INNOVATION SUMMIT 2000

A joint business and government initiative, the National Innovation Summit, convened in Melbourne 9-11 February 2000. In the wake of the conference the Innovation Summit Implementation Group was formed to report to the Prime Minister's Science, Engineering and Innovation Council by August 2000. This was duly done with the release of the Implementation Group's Final Report.³⁶

Membership of the Prime Minister's Science, Engineering and Innovation Council is made up of six Federal Ministers and the Prime Minister. The Standing Committee of the Council consists of non-Ministerial members who respond to issues referred to it by the Council. The Standing Committee oversees and contributes to studies and research aimed at improving understanding of science, engineering and innovation issues.³⁷

Six Working Groups were convened in the year before the Summit to put forward possible options for consideration. There were Working Groups covering:

- Human resources
- Industrial innovation
- Innovation and incentives
- Institutional structures and interfaces
- Management of intellectual property; and
- Resources and infrastructure consolidation and cooperation.

Basically, the Innovation Summit Implementation Group recommended to the Federal Government that a concerted effort be made to **foster a culture of ideas** in Australia and that this should be achieved by giving a high community profile to the need to be innovative and this increased profile would be best achieved by using the resources of the education system to foster an innovative culture particularly in the young.

³⁶ Australia. Innovation Summit Implementation Group, *Innovation: Unlocking the Future*, Final Report, August 2000.

³⁷ Australia. Prime Minister's Science, Engineering and Innovation Council. _Downloaded 19 September 2000 from <http://www.disr.gov.au/science/pmseic/pmseicmembership.html>

A society that **fosters a culture of ideas** resulting in the **generation of ideas** still needs to **act on those ideas**. To act on ideas, technological change needs to be accepted and fostered through government programs that will lead to the commercialisation of those ideas that have been developed.

9.2. THE INNOVATION STATEMENT 2001

Under *Backing Australia's Ability: An innovation plan for the future* the following measures were announced:

- An additional \$736 million for competitive research grants to be administered by the Australian Research Council.
- Additional research infrastructure funding of \$583 million.
- Funding of \$176 million for world class centres of excellence for information and communication technologies and biotechnology.
- Funding of \$155 million to invest in major national research facilities.
- A maximum tax concession of 175% for additional investment in R&D.
- The allocation of \$227 million to expand the Cooperative Research Centres Program.
- Increased University funding of \$151 million to provide additional places in information and communications technology, mathematics and science.
- The provision of \$130 million in support of scientific, mathematical and technological skills and innovation in government schools.

This strategy was designed to support the three key elements of the innovation process:

- Increased ability to generate ideas and undertake research;
- The improved commercial exploitation of these ideas; and
- The development and retention of workforce skills.³⁸

With respect to the retention of a skilled workforce the International Monetary Fund has recommended in a recent economic report on the Australian economy, that the Commonwealth lower the current 47 cents in the dollar marginal income

³⁸ John Howard, Prime Minister, *Backing Australia's Ability: an innovation action plan for the future*, Policy Announcement, February 2001. Downloaded 23 March 2001 from http://www.innovation.gov.au/iap/policy_launch/templates/backing.doc?Ois=y;template=inntem.html.

tax rate for incomes over \$60 000. The report has argued that this is necessary to maximise the retention of technical and entrepreneurial skills.³⁹

10. CONCLUSION

Innovation is a continuing process and this is particularly so when commercialisation is seen as the ultimate goal. The commercialisation of innovative products and processes gives producers, manufacturers and providers a competitive edge. In contemporary times the focus of government has been on how to best support an innovative culture that would continually perpetuate itself.

Programs designed to financially support innovative endeavours are always open to the criticism that government is trying to 'pick winners'. The search for innovations is a risky one⁴⁰ for both the private and public sectors, and public funds lost on such failures is seen as wasteful. However, for government to abstain from giving financial assistance absolutely, is to back away from successful innovations that will in the longer term make a positive return for the State and national economies.

Both the Queensland and Commonwealth governments are acutely aware of the need to foster an innovative culture generally. Economic growth is fuelled by innovative techniques that result in old methods and products being either upgraded to a more efficient standard or being replaced altogether and economic growth is a genuine concern for both the State and Commonwealth governments. An appreciation of the importance of innovation is evident in the Innovation and Smart State Strategies of the Queensland government and the strategies as well as the strategies being pursued by the Commonwealth.

³⁹ Jim Dickins, 'PM told to cut tax for the rich', *Courier-Mail*, 23 March 2001, p 1.

⁴⁰ Wolfgang Kasper, p 84.



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