



The Inquiry Secretary
House of Representatives Standing Committee on
Science and Innovation
R1 Suite 116
Parliament House
Canberra ACT 2600

INQUIRY INTO BUSINESS COMMITMENT TO R&D IN AUSTRALIA

Thank you for your invitation to make a submission to the above-mentioned House of Representatives Standing Committee on Science and Innovation inquiry into Business Commitment to R&D in Australia.

Please find attached APIC's submission to the Inquiry acknowledging the three central questions to be addressed by the Inquiry:

What would be the economic benefit for Australia from a greater private sector investment in R&D?

What are the impediments to business investment in R&D?

What steps need to be taken to better demonstrate to business the benefits of higher private sector investment in R&D?

Should you wish to follow up on any of the points made in this submission please contact me on (02) 6295 7312 or belinda.robinson@apic.asn.au.

Yours faithfully

Belinda Robinson
Executive Director

**Submission to the House of Representatives
Standing Committee on Science and Innovation**

**Inquiry into Business Commitment to
Research and Development in Australia**

**Australian Paper Industry Council
August 2002**

Executive Summary

In order for Australia to be R&D competitive, it is necessary to provide incentives commensurate with those of our major trading partners while recognising and understanding the unique characteristics of the Australian R&D environment. Embracing, celebrating and encouraging innovation and securing a business culture of long-term investment in R&D should be a national priority.

The overriding objective of undertaking R&D projects by the private sector is to create new or improved products, processes, materials or services for commercialisation in Australia and overseas. Ultimately this will lead to a number of social and economic national benefits including increases in the taxable incomes of Australian companies.

The Australian Paper Industry Council (APIC) recommends the following for overcoming the key impediments to business investment in R&D:

- acknowledgement that the R&D focus of Australian companies may need to be on home-grown innovation strategies and niche products in order to develop competitive advantage in world markets.
- Acknowledgement that tax incentives are the most effective instrument for encouraging innovation by business in R&D.
- Restoration of the 150 per cent R&D tax incentive.
- Removal of the 10 per cent limit on overseas R&D that can be deducted provided a benefit to Australia can be demonstrated and no equivalent domestic R&D provider is available.
- The application of the tax concession to Australian subsidiaries of global companies that conduct R&D in Australia and manufacture offshore, provided a benefit to Australia can be demonstrated.
- The criteria for eligibility for the 175 per cent premium tax rate are amended so as not to disadvantage bona fide, cyclical R&D investors.
- The development by Government, in partnership with industry, of a set of guidelines that provide for consistency, transparency and fairness in conducting negotiations for public-private R&D collaborative projects.
- the conduct of an inquiry, similar to the existing national research priorities initiative, to identify key R&D sectors for further development in advancing Australia's potential to foster and nurture niche R&D opportunities.
- The establishment of realistic targets for R&D expenditure, including business investment in R&D, provided these are supported by appropriately targeted Government policy measures.

The Australian Paper Industry

The Australian Paper Industry Council (APIC) represents the views of the six largest paper manufacturers in Australia. APIC's members are:

Amcor Australasia
Carter Holt Harvey Australia Ltd
Kimberly-Clark Australia Pty Ltd
Norske Skog (Australasia) Pty Ltd
PaperlinX Ltd
Visy Industries

Together these companies make 98 percent of the paper manufactured in Australia and directly employ more than 8,000 people mainly in regional areas. As an indication of the size of the industry, in 2000-01 the industry produced 2.7 million tonnes of paper, had fixed capital assets worth \$3.7 billion and sales turnover of \$3.4 billion.

APIC's mission is to promote and facilitate the operation and development of an Australian pulp and paper industry that is profitable, internationally competitive and ecologically sustainable by promoting and representing the collective interests of its member companies to the Commonwealth Government and other stakeholders.

The Australian industry is part of a highly competitive, globalised industry and makes a significant contribution to Australia's technical, engineering, scientific and intellectual capital. It adds considerable value to Australia's natural resources, and provides a 'foundation' industry for a number of other industry sectors including forestry, packaging, information technology, communications and services.

Industry Research and Development Activity

The paper and packaging industry has always been focused on new product development and innovation as the market is heavily segmented and new products are required to suit the changing demands of consumers and the requirements of global logistics. Further, an increasing emphasis on recycling has led to a strong focus on improving the quality of recycled products and waste reduction.

Based on the latest Australian Bureau of Statistics survey on research and experimental development, in 2000-01, the wood and paper industry invested more than \$100 million in research and development in Australia.

Table 1 Expenditure on R&D by the Wood and Paper Industry

	1998/99	1999/00	2000/01	2001/02 (expected)
Expenditure on R&D by the Wood and Paper Industry	\$84 million	\$102 million	\$100 million	\$86 million

ABS Research and Experimental Development – Business Australia 2000-01

In addition to each member company's internal commitment the industry is also involved with, and contributes funding to, the Cooperative Research Centre for Functional Communication Surfaces and the Australian Pulp and Paper Institute — a tertiary education facility located at Monash University. APPI is jointly funded by the industry and the University and offers specialist post-graduate programs of study for those working in, or interested in working in the paper industry. It also offers a number of short courses for non-specialist personnel on paper making and pulping.

Increasing competition and market pressure for cost reduction is expected to result in the paper industry reducing its R&D investment in Australia and overseas. As Australian companies expand overseas, these effects may be exacerbated by a shift in R&D expenditure to support these new operations and to take advantage of the economies of scale and other benefits that more R&D intensive environments can bring.

The Challenge

In 2000-2001 average business expenditure on R&D in Australia was approximately 0.72 per cent of GDP compared with 2.35 per cent for Finland, 2.08 per cent for the USA and 1.1 per cent for Canada.

The reasons behind these relatively low levels of commitment are complex but in large part reflect Australia's population and market size, economic and industrial structure — including the comparatively small size of those industry sectors that tend to be the heavy contributors to R&D investment, tax structures and investment incentives.

Of fundamental importance is the need to achieve and maintain at least a minimum sustainable level of R&D activity that is sufficient to provide the critical mass to compete globally with R&D providers from other nations on an industry by industry basis. At an international scale, the pulp and paper industry in Australia is relatively small and therefore this issue is of particular concern.

Increasing competitive pressures may encourage firms to reduce cost by cutting their R&D effort and purchasing "off the shelf" technology from overseas. There is a threat that Australia may become a net importer of foreign technology and, in time, could lose much of its indigenous R&D capacity.

This submission focuses on those areas where APIC believes the Government has a legitimate role to play and can work to positively influence the contribution that business makes to R&D. That said it is important to understand the limitations that exist and APIC urges caution in using relative international rates of R&D contribution as a stand alone measure of success.

Globalisation

In response to the homogeneity that globalisation has delivered, the R&D focus of Australian companies may need to be on home-grown innovation strategies and niche products in order to develop competitive advantage in world markets.

The establishment of the World Trade Organisation and the integration of global capital markets have meant that the Australian economy is becoming increasingly integrated into the broader, global economy.

As a consequence, and given the relatively small size of the Australian economy, Australia's economic directions and future are heavily influenced by much larger economies. For Australian companies to grow, they need to look to overseas opportunities. Further, global trade patterns are increasingly influenced and distorted by regional trading blocks and in order to penetrate such markets, Australian companies are required to establish operations within these areas.

Many of our members have greatly expanded their operations overseas through organic growth and acquisition. It is anticipated that, in the next ten years, more than 50 per cent of our members' operations will be conducted outside Australia, in particular, Europe and North America.

These features of globalisation represent both a threat and an opportunity for the nature and support for research and development activities in Australia.

In response to a growing emphasis on improving shareholder value, both foreign multinational and Australian companies are increasingly basing their R&D investment decisions on shareholder return and cost effectiveness considerations. The global capital market expects companies to control their R&D spending and to boost revenues generated from new products. It is important to note that R&D only creates value when the business strategy specifically requires it, either to solve known problems, or to act as a catalyst for developing new products. For most companies, R&D investment must be sharply focused and with shorter-term returns than may have been the case in the past.

Globalisation has resulted in less of an imperative for R&D activities to be conducted in Australian research facilities. The trend is for R&D activities to be carried out overseas and the results imported into Australia. Part of the explanation for this lies in the increasing requirement for Australian research and development facilities to compete with overseas facilities for decreasing levels of funding. Further, the increasing mobility of the workforce, the

adoption of global electronic communication networks and the preference for relocating operations closer to major markets have also been a contributor.

However, if the conditions are sufficiently attractive in Australia in terms of relative cost and skill base and the industry incentives available, global R&D can — particularly for specialist, niche markets — be based in Australia and the results exported for use around the world.

Making the Case for R&D

Business investment in R&D is pivotal to the overall growth of the national economy.

Innovation is a key driver of growth for companies and the Australian economy. The development and commercialisation of new products, processes and services, and their impact on increasing labour productivity, play a key role in securing longer term growth of the economy. Innovation generates gains in productivity, spawns new industry and transforms existing businesses.

The level of innovation in Australia is clearly dependent on continuing basic and applied research and ready access to new technology and new ideas. It is recognised that economies that effectively foster a culture of innovation will grow faster and will generate more jobs and higher living standards.

Although APIC does not support governments taking on the role of venture capitalists, we consider legitimate functions for government are to:

- assist the R&D effort of companies with insufficient resources to do so themselves;
- provide incentives for companies to increase their investment; and
- contribute to R&D infrastructure and the non-industry R&D effort.

There is a strong economic rationale for governments to assist R&D in that the benefits of R&D extend beyond the performers themselves to other firms and sectors of the economy and the value of these benefits is not fully appropriable by the R&D performer.

Two Canadian reports¹ examined the empirical evidence to show that R&D benefits spill over into other projects, firms, industries and countries, and that social rates of return to R&D investments can be significantly higher than private rates of return. The studies concluded that from a policy perspective, the need for R&D incentives is clear; the issue for policy makers is to determine their magnitudes and forms.

¹ *The Federal System of Income Tax Incentives for SRED: Evaluation Report, Dec 1997, Department of Finance, Canada; and Why and How Governments Support R&D, Dec 1997-Department of Finance, Canada.*

In 1997, the Mortimer Report — *Going for Growth- Business Programs for Investment, Innovation and Export*, noted that innovation accounted for an estimated 50 per cent of long-term economic growth in advanced industrial countries.² It also found a strong correlation between the wealth of nations and R&D intensity.

Impediments for Australian Private Sector in Business Investment in R&D

APIC considers the major impediments to increasing the role of business in R&D are as follows:

- Industrial structure — the predominance of industries that tend to be comparatively less R&D intensive than in other countries. Australia lacks the concentration of R&D intensive industries such as pharmaceutical, chemicals and IT;
- Expansion and growth of Australian manufacturing overseas — this leads to an inevitable relocation of R&D effort;
- Intellectual property management — Australia’s public sector research organisations and tertiary institutions are too rigid in respect of intellectual property management that is currently deterring collaborative efforts;
- The absence of an R&D “culture” — the lack of appreciation and understanding of the future potential of R&D investment by the market and general public; a market focus on short-term return rather than long-term investment; and a lack of acknowledgement, profile and financial remuneration given to those working in R&D are all symptoms of a culture that does not value highly science and technical innovation.

If these impediments are accepted, the implications are four-fold. First, targets for business R&D expenditure should be realistic. Given our industrial structure it may not be reasonable, in the short to medium term, to expect R&D expenditure to match the rates of other developed economies.

Secondly, it follows that if Australia’s R&D expenditure is to increase more of the load may need to fall to the public sector. This is not unreasonable given that the social benefits of R&D far exceed the private benefits. Studies referred to in the Mortimer report estimated the social return on R&D expenditure to be around 74 per cent and others have estimated much higher estimates.³

The cultural issue mentioned in the last dot point is much more difficult to address. It is a complex response to Australia’s social, political and industrial evolution that is unlikely to be influenced to any great extent by a quick fix

² p.99

³ Ibid p. 106

public policy approach. However it is worth further attention and may warrant an inquiry in its own right as means for fully understanding the contribution that cultural issues have made to Australia's relatively poor R&D effort. Again it is an issue that underscores the point made above about setting realistic targets.

Finally and of most relevance to this inquiry, encouraging further business investment will require Governments being able to demonstrate the benefits that greater investment will deliver. They must also make the investment environment as attractive as possible — at least as positive as other developed countries.

The Australian R&D Tax Concession

APIC strongly supports tax incentives as the most effective instrument for encouraging innovation by business in R&D.

The R&D tax incentive allows companies to determine for themselves the nature of the R&D undertaken, thereby enabling companies to respond quickly to market requirements and business conditions as they emerge. In this way the tax incentive is more efficient and transparent than other forms of assistance, such as discretionary grants. In addition, the tax incentive has a well-established infrastructure.

The R&D tax incentive was introduced in 1985, as a result of Australia's low level of R&D expenditure, particularly in comparison to other OECD countries.

The key R&D tax incentive eligibility requirements are, in our view, well understood by industry and have enabled a broad range of Australian companies to access the incentive over the past 14 years.

During that period (particularly prior to August 1996), the tax incentive has clearly been a success and is accepted by industry as a critical factor in encouraging ongoing technology development. It has also led to a number of other positive benefits including growth in employment, labour productivity, technology transfer, exports, import replacement and competitiveness. This was confirmed by the 1995 Industry Commission — *“the 150 per cent tax concession has brought net benefits to the Australian economy”*.

While APIC recognises the Government's budgetary priorities, we believe that insufficient recognition is given to the significant taxation revenue that is generated which, in our opinion, more than outweighs the gross tax revenue foregone.

In 1996, the Government implemented the most significant cutbacks to the tax incentive since its inception in 1985 so as to stop unintended use of the program.

These cutbacks included:

- abolition of R&D syndication;

- elimination of feedstock claims;
- restriction in core technology claims;
- restriction of interest deductibility;
- imposition of rigid registration requirements (six months); and
- removal of prior year registration.

These restrictions have made investing in legitimate R&D activities less attractive.

A company's commitment to R&D investment is highly volatile and discretionary and can be considerably reduced or moved offshore, in response to unfavourable circumstances within Australia.

There is clear evidence, for example, that the reduction of the R&D tax incentive in 1996 from 150 per cent to 125 per cent directly contributed to such outcomes. The Australian Bureau of Statistics reported a significant fall in R&D expenditure for 1996-97 and a 1998 Business Council of Australia Survey of Research and Development Expenditure by Australian business concluded that R&D expenditure had fallen by one-third (or \$1.5 billion). The survey concluded that the tax incentive is a very efficient vehicle for encouraging business R&D expenditure.

The benefit delivered by the R&D Tax Concession has also been affected by the changes in the corporate tax rate. While this has been welcomed by industry, it is worth noting that reducing the corporate tax rate to 30 per cent in 2001-02 has reduced the value of the R&D tax concession from 9 cents to 7.5 cents in the dollar.

The following table indicates past changes in the benefit from changes in the corporate tax rate.

Table 2 Summary of R&D Rate of Subsidy

	1986/87	1987/88	1988/93	1993/95	1995/00	2000/01	Post 2001
Tax Rate	46%	49%	39%	33%	36%	34%	30%
Actual Benefit	23 cents	24.5 cents	19.5 cents	16.5 cents	9 cents *	8.5cents*	7.5 cents *

* Also reflects the decrease in the tax concession from 150% to 125% in the 1996/97 Federal Budget

As indicated above, the effective rate of subsidy provided by the R&D tax concession has fallen by 66 per cent since it was first introduced in 1986.

Restoring the Base R&D Incentive Level

APIC strongly supports the restoration of the R&D tax incentive to 150 per cent to reinstate the incentive to levels commensurate with the incentives offered in Europe and North America.

Our experience suggests that the changes to the R&D tax incentive in 1996 and in 2001 have led to the diminishment of the effectiveness of the tax concessions in encouraging further investment in R&D.

As indicated in the Mortimer Report, it is critical that the Government's R&D tax incentive policy should promote certainty of R&D investment decisions in both the short and long term. From a taxation incentive perspective this means that the effective incentive should be set and maintained at a level that attracts continued high levels of investment.

Given the cost of compliance and the effective reduction associated with the reduction of the corporate tax rate, the existing level of subsidy is unlikely to provide sufficient inducement to many Australian businesses to invest in new R&D projects. Furthermore, a further reduction of the level of subsidy may reduce Australia's attractiveness as a location for R&D investment relative to other countries that have far more generous R&D tax incentives.

In light of the recent introduction of additional tax concessions in the UK and other EU countries, and also the generous tax incentive regimes offered by some Asian countries (including Malaysia and Singapore), Australia's competitive position as a destination of R&D investment is being eroded.

APIC further recommends:

- ***the removal of the 10 per cent limit on overseas R&D that can be deducted where a benefit to Australia can be demonstrated and where no domestic equivalent R&D provider is available;***
- ***that the tax concession apply to Australian subsidiaries of multinationals who conduct R&D in Australia and manufacture offshore where a benefit to the Australian economy can be demonstrated; and***
- ***tax incentives for companies to access state-of-the-art overseas "core technology";***

The 175 per cent Premium Tax Rate

APIC recommends that the criteria for eligibility for the 175 per cent premium tax rate be amended so as not to disadvantage bona fide, cyclical R&D investors.

APIC commends the Government for introducing a premium tax deduction rate of 175 per cent as part of its Innovation Action Plan but considers that it suffers from a number of limitations.

The calculation of the premium deduction is complex. For example, the effect of applying the calculation methodology is to penalise companies for varying their R&D expenditure from year to year by more than 20 per cent. At the same time it is that part of current year R&D expenditure that exceeds the average base R&D expenditure of the previous 3 years that attracts an additional 50 per cent deduction. As a consequence, the volatility of the paper industry's R&D investment cycle makes it very difficult for members to access the premium rate and therefore is unlikely to act as a strong incentive for increasing investment in R&D.

Non-tax Measures

APIC urges the Committee to investigate a number of non-tax measures.

Public sector- private sector collaboration

APIC members are concerned that the management of intellectual property arrangements is currently acting as a deterrent to business participating in public-private sector collaborative R&D projects. Negotiations in relation to commercialisation and intellectual property rights are fraught with difficulty, frustrating, unpredictable and arduous to the extent that the process of negotiation itself is a significant impediment.

APIC recommends the Government work with industry to develop a set of guidelines that provide for consistency, transparency and fairness in conducting negotiations for public-private R&D collaborative projects.

Comparative advantage

It was suggested under the heading of globalisation that part of Australia's R&D effort should focus on home-grown innovation and niche products in order to develop an R&D competitive advantage. For this to occur APIC supports the identification of key sectors and priorities to guide R&D effort, particularly Government support for business R&D.

APIC recommends an inquiry, similar to the existing national research priorities initiative, be conducted to identify key R&D sectors for further development in advancing Australia's potential to foster and nurture niche R&D opportunities.

Creating a culture of innovation

As discussed earlier in this submission, addressing cultural issues is difficult. As a first step, there may be merit in suggesting targets for growth in business

R&D expenditure and per capita R&D expenditure more broadly. These targets would need to be realistic to reflect Australian circumstances but could send a powerful signal to industry of the Government's commitment to improving the national R&D effort. It would also provide a strong focus for developing R&D programs more broadly. These targets would need to take account of the critical success factors in countries that have successfully increased their R&D intensity and developed environmentally responsible industries. These targets could form part of a broader Innovation Policy package.

APIC supports realistic targets for R&D expenditure, including business investment in R&D — provided these are supported by appropriately targeted Government policy measures.