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AGRICULTURAL MACHINERY**

General Manager
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12 October 2009

GP

Herein our feedback and comments on the principles and questions outlined in The New Research And Development Tax Incentive Consultation Paper.

EXECUTIVE SUMMARY

Principle 1 - Proposals to create Australian ownership of R&D and encourage 100% local investment are supported by us.

Principle 2 – The rate and carry forward attribute for the standard R&D tax credit are supported by us.

Principle 3 – The refundable R&D tax credit should be encouraged as a carry forward component before refund is considered, to encourage better fiscal management and R&D planning. The R&D expenditure that is currently deductible at 100 per cent should attract an equivalent level of support under the new arrangements by allowing companies to access a non-refundable tax credit on these expenditures at the prevailing company tax rate and that that expenditure incurred to associates should only be claimed where they are paid in cash.

Principle 4 - Fundamental to a company being able to correctly plan, manage, and self-assess will be the quality of information available, the knowledge and accessibility of administrators and the levels of guidance and timeliness for claimants in more remote / regional areas. No complexity should attach to differentiating between core and supporting R&D, so participants do not lose the potential for inclusion of a genuine cost in the claim.

Principle 5 - New definitions should not restrict or exclude activities by either industry, field of research or socio-economic objective. What should not arise is the loss of future innovation in a product or process due to a definition that has excluded the path to that innovation in it's eligibility criteria.

Principle 6 – Reliance on a system of definitions that seeks to align a country's R&D system with the Frascati Manual is flawed. The Frascati definition is over-emphasising basic research at the expense of development. Any change to definition must take into account the Oslo Manual to identify that innovation ***v*** risk must have flexibility. The U.S.A., U.K. and Canada all apply wider criteria to their current R&D programs than is indicated in the Consultation Paper.

Principle 7 - The importance of proper supportive cost funding for R&D is recognised in the major, developed countries and it is imperative that the Australian Government does not set adverse limitations in this regard for Australian companies that may have a negative effect on the quantum of R&D undertaken within Australia.

Regards,
Gary Dewhurst-Phillips
Business Manager

COMMENTARY

Principle 1
The new R&D tax incentive will be available to companies incorporated in Australia for R&D conducted in Australia. Location of ownership of the resulting IP will not be relevant.

1.1 We fully support this principle.

Question 1
Should there be any exceptions to the general rule that eligible R&D activity must be conducted in Australia?

1.2 We believe that eligible R&D activity must be conducted in Australia — without any exceptions. The end benefit to Australian tax payers must be that the subsidy they provide flows back into the Australian economy. The risk that an Australian company, affiliated or dealing with an offshore entity, may choose to fully conduct their R&D activity offshore will more likely be driven by other factors, e.g. market proximity, labour cost or foreign government incentives exceeding our own rather than loss of any component for overseas activity of the R&D credit.

Principle 2
The Standard R&D Tax Credit will be available at a rate of 40 per cent for eligible R&D expenditure and can be carried forward where a company's income tax liability is zero.

2.1 We fully support this principle.

Principle 3
The Refundable R&D Tax Credit will be available to companies with a turnover of less than $20 million at a rate of 45 per cent for eligible R&D expenditure.

3.1 We support this principle with the following observation:

Any residual unused amounts can be refunded as cash to the company.

3.2 The consultation paper does not make it clear as to whether unused amounts can, optionally, be retained as future tax offsets rather than cashed in. We believe that any surplus remaining after available offsets should not be automatically available as cash refunds but should be carried forward to be applied against future income tax liabilities (in accordance with Division 65 of the ITAA 1997) UNLESS the entity involved is a tax exempt body (e.g. Universities) or applies for the refund.

This has a cost benefit to the economy in deferring drawdown of cash reserves for refunds by converting this to cash input depletion (from taxes) at a much later time and by which time some national economic benefit may have derived from the R&D project that is being funded. Also, companies need to be encouraged to focus on strong fiscal management rather than reliant on cash hand outs. External investments, borrowings and equity partners are options to be considered rather than public funding at the outset.

Small, innovative firms which are loss-making in their early years may perceive no immediate benefit in having a tax credit that only adds to the tax losses they can carry forward to future years of profitability. Therefore the cash element for new, loss-making companies may be important. However, these new, loss making companies and existing companies that have had a prior history of profit should be encouraged to use fiscal management before any cash refunds are provided. The availability of carry forward loss offset should be considered first, in line with the company's future financial, R&D, marketing and expansion budgets. This could be encouraged by making the cash refund of lower value than the carry forward tax offset.

Question 2
How should the new R&D tax incentive treat R&D expenditure that is currently deductible at 100 per cent?

3.3 Despite their lower risk attribute, these expenditures are fundamental to the R&D cost base and need to be accounted and recognised as such. If they are quarantined then the statistical analysis of the overall cost of R&D becomes muddied over time. We will be left with the pure, direct cost attribution which is not an accurate reflection of the cost of R&D to either the company or the economy. In a similar way that the cost of employment must include, in addition to the payment of wages, taxes and superannuation for an employee, the cost of worker's compensation insurance, the cost of the H.R. and O.H.&.S personnel and loss of productivity through absenteeism.

We believe that the sensible approach is contained in item 39 of the consultation paper: *"…. to provide an equivalent level of support under the new arrangements by allowing companies to access a non-refundable tax credit on these expenditures at the prevailing company tax rate (currently 30 per cent).*

The resulting tax credit should arise regardless of any loss status of the company and attach to any losses or other credits arising after offsets and be carried forward to be applied against future income tax liabilities (in accordance with Division 65 of the ITAA 1997).

Question 3
Should expenditure incurred to associate entities only be eligible for the new R&D tax incentive where paid in cash?

3.4 We believe the management and verification of non-cash expenditure to associate entities will create unnecessary impost on the time of the A.T.O., Innovation Australia and AusIndustry OR not occur effectively due to time and resource constraints, creating perhaps an opportunity for unscrupulous or erroneous claims to escape attention.

The Government should require that expenditure incurred to associates can only be claimed where they are paid in cash. This creates a simple audit trail, leaves no doubts and by its existence, means the cost is only claimed in the year of payment.

Principle 4
Legislation for the new R&D tax incentive will provide support for the scheme's efficient and effective administration.

4.1 We support this principle with the following qualifications.

Fundamental to a company being able to correctly plan, manage, and self-assess will be:

- the quality of information contained in guidance material;
- knowledge and accessibility of officers within the administrating organisations; and,
- the levels of guidance available on a timely basis to both existing and incoming claimants in more remote / regional areas.
- The complexity attached to differentiating between core and supporting R&D must be eliminated to the extent that a participant can justify their distinction without losing the potential for inclusion of a genuine cost in the claim.

Principle 5
The new R&D tax incentive should target R&D that:
(a) is in addition to what otherwise would have occurred; and
(b) provides spillovers — benefits that are shared by other firms and the community — that are large relative to the associated subsidy.

We have comments on the following points from the consultation paper in this regard:

5.1 Items 48 and 49, as they are stated, create conflict with each other:

Item 48 – *"....'additionality and spillovers' test applies to the new R&D tax incentive as a whole, rather than individual R&D activities."*
Item 49 – *"….the principle of additionality and spillovers will underpin the design of the rules for what activities will be eligible for the new R&D tax incentive."*

If the rules derive from the intention as a whole but are badly described in relation to specific activities, then some activities which ought to be considered may be denied on the technicality. Also, some activities which do qualify may create an additionality that ought to also qualify but is denied on the technicality.

5.2 Item 50
"….a new definition of eligible R&D activity is an essential component of the new R&D tax incentive package."

The new definition should not restrict or exclude activities by either industry, field of research or socio-economic objective. This could happen if the rules are not thoroughly tested by application against the industries already involved in successful R&D over the preceding years. The tests should indicate the cost, social and economic benefits and spillover from the projects. What should not arise is the loss of future innovation in a product or process due to a definition that has excluded the path to that innovation in it's eligibility criteria. This observation flows into those following at Principle 6.

Principle 6
Eligible R&D activity will be defined as systematic, investigative and experimental activity that:
(a) involves both innovation and high levels of technical risk; and
(b) is for the purpose of producing new knowledge or improvements.

6.1 We agree with the content of items 52 and 53. These are already embodied in the current R&D requirements, according to our understanding of them. Similarly, item 54. However, how the definition is drafted and the specific rules applied to the ratio of innovation ***v*** risk must have

flexibility. The Oslo manual, which needs to have recognition alongside the Frascati Manual, clearly identifies that innovation is more than simply what is noted in the consultation paper at item 53. *"…the ways in which companies seek to differentiate themselves from their competitors and improve profitability…."*

6.2 H.M. Treasury document in 2003 from the U.K. *'Defining innovation: a consultation on the definition of R&D for tax purposes'* makes the following comment:

> "Some have criticised the Frascati definition as over-emphasising basic research at the expense of development. This is not the Government's intention for the UK's definition; the aim is to incentivise all R&D activity equally across the spectrum from basic research to development. However, it is at the 'development' end of the R&D spectrum that it becomes most difficult to distinguish between activity that is R&D and activity that is not. The Guidelines therefore focus on defining this boundary in order to provide clarity for companies investing in R&D, and to ensure that the R&D tax credits are focused on the most innovative activities."

The subsequent R&D Tax Guidelines (Guidelines on the Meaning of Research and Development for Tax Purposes, 5 March 2004) developed from the 2003 discussion have taken these wider definitions into account. Item 9 from the guidelines:

> "9. A project which seeks to, for example,
>
> (a) extend overall knowledge or capability in a field of science or technology; or
> (b) create a process, material, device, product or service which incorporates or represents an increase in overall knowledge or capability in a field of science or technology; or
> (c) make an appreciable improvement to an existing process, material, device, product or service through scientific or technological changes; or
> (d) use science or technology to duplicate the effect of an existing process, material, device, product or service in a new or appreciably improved way (e.g. a product which has exactly the same performance characteristics as existing models, but is built in a fundamentally different manner)
>
> will therefore be R&D."

6.3 Item 55 makes the comment that *"….high levels of technical risk…"* must be inherent in the definition. High levels of innovation in R&D with some level, not necessarily high, of risk can also create the desired outcomes of an R&D project. Again, refer the Oslo Manual for innovation definition. If this definition for core R&D activity becomes the norm then most certainly an alignment with the Frascati Manual will eventuate but very likely at the expense of future investment in innovative R&D in our country. We could create a system that sees both our public and private sector fade into a non-developmental back water.

6.4 The following excerpts, from a 2003 presentation, by the UK's John Barber of the then Dept. Trade & Industry, on R&D and Economic Performance, gives rise to our own speculation that the intended reliance by the Australian Government on restrictive R&D definitions solely for the purpose of close alignment with the Frascati Manual is a fundamentally flawed rationale:

"….Depending on the nature of their business firms also create new technological knowledge and embody it in new products and processes using advanced engineering and design skills, reverse engineering, systems integration and software development. Innovation surveys show that firms rate users/customers and suppliers as major external sources of new technological knowledge. Professor Rikard Stankiewicz divides technologies into two main types, research based technologies whose origin is to be found in scientific breakthroughs and engineering based or integrative technologies whose origin is within industry itself….."

"…. The OECD Frascati definition of R&D excludes most of these other means by which firms develop or acquires new technologies. They therefore constitute 'dark matter' which is left out of both econometric studies and numerical benchmarking of innovation performance…."

"….R&D performs several functions within the innovation process

- It is a means of developing new technologies;
- It can be the means of incorporating new technologies, or new combinations of existing state of the art technologies, into new products and processes;
- It enables the firm to appraise, absorb and adapt technology from elsewhere.

About two-thirds of R&D is Development most of which supports adaptation and diffusion of pre-existing technologies. It is not the initial introduction of a novel technology which yields the majority of the economic benefits but its subsequent diffusion and improvement over many decades…."

"….R&D is often seen as the mainspring of innovation. However many studies suggest that
the initial concept for a new or improve product is more often generated at the interface between a potential producer and a potential user and R&D is just one of the means by which this concept can be realised. It is just as valid, perhaps more so, to see R&D as driven by innovation than the other way round…."

This report is located on line at: http://www.6cp.net/downloads/03eisenstadt_barber.doc

6.5 Investments in R&D for Greenhouse Gas strategies, Climate Change Technologies, Population Management strategies, among other 'Future' looking, economy benefiting projects may very likely have a lower element of high technical risk than innovation. By design of the intended definition from item 55 it would be fair to assume that organisations will not invest in these important future frameworks that carry uncertain outcomes (risk - but not of a highly technical nature) if they cannot be subsidised for the effort.

References citing examples of, and reasons for, successful, primarily innovative R&D that question the compulsory inclusion of high level technical risk:

1. Defeating the Weed Menace R&D (Judy Lambert):
   http://www.communitysolutions.com.au/pdf/AWC272Lambert.pdf

This was a multi-million dollar, Australian Government commitment in 2004 to an R&D project that has far reaching, future implications. Not much risk of highly technical nature and a project that would have been written off by the definition being proposed for future R&D:

> "The key focus of this work has been the generation of new knowledge, and assimilation of that knowledge with existing knowledge to help prevent the development of new weed problems, to reduce the impact of existing weeds that are of national priority, and to build capacity for their management into the future."

2. Title: Innovation in research and development: tool of strategic growth (by Yair Holtzman): http://www.emeraldinsight.com/Insight/viewContentItem.do?contentType=Article&hdAction=lnkpdf&contentId=1752311

   This report describes R&D as a tool of strategic growth, looking at both strategic R&D and innovation in R&D. The findings include the statement that:

   > "Innovation, and innovation in research and development in particular, can provide the advantage that world class organizations need to create the sustainable growth year after year."

3. The OECD review of innovation policy as referenced to New Zealand: http://213.253.134.43/oecd/pdfs/browseit/9207071E.PDF

   One of the main weaknesses inhibiting economic growth is cited in the report as:

   > "Lack of investment in business R&D….due in part to a lack of external funding at some stages of business innovation processes….insufficient motivation and innovation capabilities…."

   Further in the report, among the guiding principles to success in R&D, that seems to be at odds with the direction being proposed for Australia:

   > "Innovation policy should avoid an "R&D and high-tech myopia"…."
   > (and)
   > "….Innovation processes are not linear; they are both science-pushed and market-pulled, with complex feedback loops. Therefore, a broad range of policies influence their dynamics and efficiency….."

6.6 At item 55 the observation that, *"....Many countries, including the United Kingdom and the United States, take a narrower approach."* should not be construed as being the correct approach and, in fact, is a questionable statement.

The 2009 *'American Recovery and Reinvestment Act: Research and Development'* which injects $USD 21.5b into the R&D area alone following the recognition by the U.S.A. (after the G.F.C.) that not enough R&D growth had been generated previously in this regard, has widened, not narrowed, the approach to R&D in that country. Recognition is given in the AAAS R&D Budget and Policy Program report that the previously narrow approach was not creating suitable outcomes:

> "For the science and engineering community, the stimulus bill represents a welcome acknowledgement from policymakers….and also represents a dramatic turnaround from the flat or declining research funding trends of recent years."

The R&D component of this Act are at: http://www.nga.org/Files/pdf/ARRARDFUNDING.PDF
The AAAS report is at: http://www.aaas.org/spp/rd/stim09c.pdf

6.7 Importantly, the 2007 US publication 'Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future' has strong comments on America's past performance in R&D and the recommendations made for future performance seem to contradict the assumptions being promoted within Australia's 'The New Research And Development Tax Incentive Consultation Paper'

The publication is by the Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology, National Academy of Sciences, National Academy of Engineering, Institute of Medicine.

The Executive Summary or PDF of the publication can be found at:
http://www.nap.edu/catalog/11463.html

6.8 Excerpts from the Executive Summary of relevance to our commentary on the consultation paper show that the U.S.A. is determined to both attract new business and increase existing investment through R&D. If Australia narrows our own focus on R&D funding and decreases R&D investment as a result we will have become divergent from the trends of our competitors and open up opportunities for them that perhaps we should have taken. The U.S. are intent on expansion of their R&D guidelines:

> "Enact a stronger research and development tax credit to encourage private investment in innovation…..alternatives to current economic policies should be examined ….and could include changes in overall corporate tax rates and special tax provisions providing incentives for the purchase of high-technology research and manufacturing equipment, treatment of capital gains, and incentives for long-term investments in innovation….with a view to ensuring that the United States is one of the most attractive places in the world for long-term innovation-related investment and the jobs resulting from that investment. From a tax standpoint, that is not now the case."

The Conclusion from the Executive Summary states:

> "It is easy to be complacent about US competitiveness and preeminence in science and technology. We have led the world for decades, and we continue to do so in many research fields today. But the world is changing rapidly, and our advantages are no longer unique. Some will argue that this is a problem for market forces to resolve—but that is exactly the concern. Market forces are *already at work* moving jobs to countries with less costly, often better educated, highly motivated workforces and friendlier tax policies….we are obliged to renew those commitments in education, research, and innovation policies to ensure that the American people continue to benefit from the remarkable opportunities provided by the rapid development of the global economy and its not inconsiderable underpinning in science and technology."

6.9 Similarly, the H.M. Treasury document in 2003 from the U.K. *'Defining innovation: a consultation on the definition of R&D for tax purposes'* makes it clear that the narrow approach to R&D incentive has not been successful in that country. Excerpts from that consultation paper conclude:

> "The UK has an excellent record in science and technology research but has historically fared less well in turning this research into innovative products and services. Whilst some UK companies are world leaders in innovation, the UK has in the past had a relatively low overall level of commercial research..."
>
> "The paper considers the effectiveness of the current definition of R&D; in particular whether it remains consistent with technological developments and competitive internationally…."
>
> "Innovation is a significant contributory factor to improved productivity. A quarter of a century ago the UK's R&D intensity (R&D as a proportion of GDP) was broadly on a par with other major economies but by 1996 it had slipped and was the lowest of the Group of 5 Industrialised Nations."

Of interest is the observation that the discussion paper:

"….also consider potential extensions to the definition of R&D – going beyond the Frascati guidelines into areas such as the 'D' end of R&D; design and the level of novelty required. Extension of the definition by necessity means that more activities qualify for the credit and therefore the levels of credit claimed will increase."

Following the consultation and review process, the guidelines were released in 2004 as: 'Guidelines on the Meaning of Research and Development for Tax Purposes, 5 March 2004'

These can be downloaded at: http://www.innovation.gov.uk/randd/new_rd-guidelines-2004.pdf

6.10 The new guidelines, underpinning the U.K. R&D Tax Credit System, include the items in the table following. Items which are fundamentally at odds with Item 55 of the consultation paper whereby the claim is made, "Many countries, including the United Kingdom …. take a narrower approach."

THE DEFINITION OF RESEARCH & DEVELOPMENT
3. R&D for tax purposes takes place when a **project** seeks to achieve an **advance in science or technology.**
4. The activities which **directly contribute** to achieving this advance in science or technology through the resolution of **scientific or technological uncertainty** are R&D.
5. Certain **qualifying indirect activities** related to the project are also R&D. Activities other than qualifying indirect activities which do not directly contribute to the resolution of the project's scientific or technological uncertainty are not R&D.
ADVANCE IN SCIENCE OR TECHNOLOGY
6. An advance in science or technology means an advance in **overall knowledge or capability** in a field of **science** or **technology** (not a company's own state of knowledge or capability alone). This includes the adaptation of knowledge or capability from another field

of science or technology in order to make such an advance where this adaptation was not readily deducible.
7. An advance in science or technology may have tangible consequences (such as a new or more efficient cleaning product, or a process which generates less waste) or more intangible outcomes (new knowledge or cost improvements, for example).
9. A project which seeks to, for example, (a) extend overall knowledge or capability in a field of science or technology; or (b) create a process, material, device, product or service which incorporates or represents an increase in overall knowledge or capability in a field of science or technology; or (c) make an **appreciable improvement** to an existing process, material, device, product or service through scientific or technological changes; or (d) use science or technology to duplicate the effect of an existing process, material, device, product or service in a new or appreciably improved way (e.g. a product which has exactly the same performance characteristics as existing models, but is built in a fundamentally different manner) will therefore be R&D.
10. Even if the advance in science or technology sought by a project is not achieved or not fully realised, R&D still takes place.
11. If a particular advance in science or technology has already been made or attempted but details are not readily available (for example, if it is a trade secret), work to achieve such an advance can still be an advance in science or technology.
20. Overall knowledge or capability in a field of science or technology means the knowledge or capability in the field which is publicly available or is readily deducible from the publicly available knowledge or capability by a competent professional working in the field. Work which seeks an advance relative to this overall knowledge or capability is R&D.
23. Appreciable improvement means to change or adapt the scientific or technological characteristics of something to the point where it is 'better' than the original. The improvement should be more than a minor or routine upgrading, and should represent something that would generally be acknowledged by a competent professional working in the field as a genuine and non-trivial improvement. Improvements arising from the adaptation of knowledge or capability from another field of science or technology are appreciable improvements if they would generally be acknowledged by a competent professional working in the field as a genuine and non-trivial improvement.
Start and end of R&D
34. R&D ends when knowledge is codified in a form usable by a competent professional working in the field, or when a prototype or pilot plant with all the functional characteristics of the final process, material, device, product or service is produced.
35. Although the R&D for a process, material, device, product or service may have ended, new problems which involve scientific or technological uncertainty may emerge after it has been turned over to production or put into use. The resolution of these problems may require new R&D to be carried out. But there is a distinction to be drawn between such problems and routine fault fixing.

Principle 7

Supporting R&D will continue to be recognised under the new R&D tax incentive but claims will be subject to new limitations.

7.1 Considerable relevance for argument against Principle 7 was lodged in 2001 by Deloitte Touche Tohmatsu Ltd. in their 'Submission re Taxation Laws Amendment (Research and

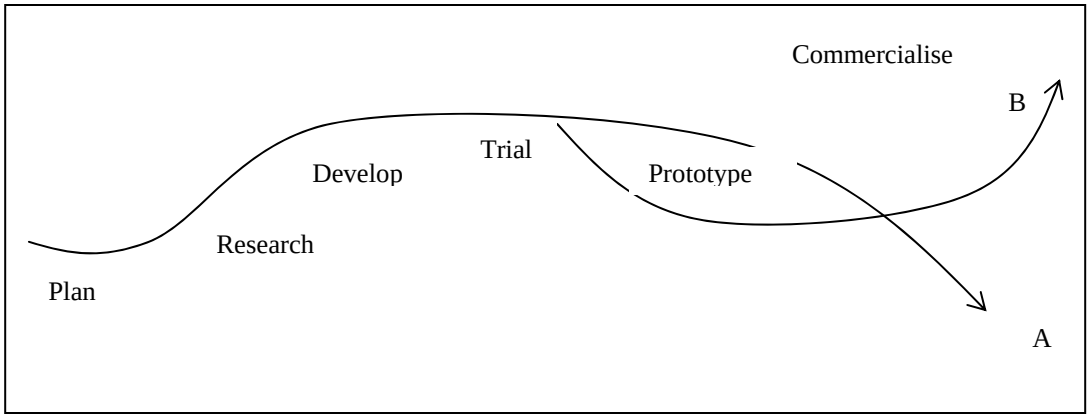
Development) Bill 2001' This can be found on line at:
http://www.aph.gov.au/SENATE/committee/economics_ctte/completed_inquiries/1999-02/taxlaw_resamend/submisisons/sub06.doc

They summarised that the changes proposed then "….will have a negative effect on the quantum of R&D undertaken within Australia." This view is supported by us now in relation to the current proposed changes.

7.2 From Item 56: "Whatever form it takes, any new approach to supporting R&D will be more stringent than the current rules."

Our concern is the way in which the definitions and rules are drafted, then applied. These must be aligned with the cost realities of the many and varied R&D projects that can possibly occur as Australia moves into a future of uncertain change and challenges. Too much restriction will drive Australia's R&D into recession and / or offshore. Already there is considerable opposition posted on web sites across Australia relative to Principle 7.

7.3 R&D costs, core or supportive, are still costs borne in the development of the product. Australian companies may not successfully commercialise new product if they cannot create the financial link between where the development ends and the commercialisation begins. The Sigmoid Curve has relevance to R&D in this regard.



The right place to start the second curve B is at point A where there is the time, as well as the resources and the initiative. The first curve must be kept going long enough to support the second curve. In the R&D world this period is financially draining. Lack of funding support at this point may so deplete the initiative that the project does not commercialise. Therefore, all the funding thus far expended has been wasted.

7.4 The importance of proper supportive cost funding is recognised in the major, developed countries and it belies belief that the Australian Government is considering limitations in this regard for Australian companies. Particularly so when the Australia 2020 Summit Report in April 2008, under the heading: 'The Productivity Agenda - Education, Skills, Training, Science And Innovation' there exists the stated intention that:

> "We'll know that we're on the right track when productivity is maximised by….Research and development investment having increased to a level that sustains our competitiveness as a nation…."

The report is at: http://www.australia2020.gov.au/docs/2020_Summit_initial_report.doc

7.5 Evidence that our trading partners will fare better than Australia into the future in R&D and new technologies can be found by comparing their stated guidelines against our intended guidelines.

The EU's Framework Programs for Research and Technological Development are the EU's main source of support and funding for research. The current Program (FP7) will run from 2007 to 2013. The FP7 Website is at: http://cordis.europa.eu/fp7/home_en.html

The UK's 'Guidelines on the Meaning of Research and Development for Tax Purposes, 5 March 2004' - referenced elsewhere in this commentary, can be downloaded at: http://www.innovation.gov.uk/randd/new_rd-guidelines-2004.pdf

The New Zealand Ministry of Research, Science and Technology Research recognises R&D as an important driver for economic growth and the ongoing transformation process of the society away from a high dependence on the primary sector and towards a knowledge based economy. The funding guidelines developed for 2009 are flexible to meet the needs of the many sectors that involve in R&D in that country. Details on line at: http://www.frst.govt.nz/funding

In the U.S.A. attention to research policy recognises new global challengers, e.g. China. Research policy plans were embodied into new federal legislative initiatives such as The America Competes Act of 2007. This followed from the Innovate America Summit in 2005. This report is at:
http://www.compete.org/images/uploads/File/PDF%20Files/NII_Innovate_America.pdf
American R&D guidelines in favour of holistic funding programs have been bolstered by the stimulus initiatives under the American Recovery and Reinvestment Act of 2009, referenced elsewhere in this commentary.

China has two main R&D policy documents: (1) 'National S&T Development Plan for the 11th Five-year Period (2006-2010)' and (2) 'Medium- and Long-term National Plan for Science and Technology Development 2006-2020' The latter has an English version at:
http://www.most.gov.cn/eng/pr essroom/200507/t20050706_22978.htm

Particularly of note is the criteria from the Long Term Plan that:

> "….international competitiveness by sparing no efforts to reinforce the original innovations, integrated innovations and digestion and absorption of and innovations based on introduced advanced technologies….."

7.6 Item 57 states: "Companies are not required to distinguish between core and supporting R&D in making a claim under the current scheme."

There are inherent difficulties in actually making this identification. Will the new legislation adopt a 'tick box' approach? Will it be left to the claimant then subject to analysis later? How will the differentiation between core and support activities deal with projects involving no high level technical risk but high innovation, e.g. pure research where the objective is to gain better understanding or new knowledge or undiscovered relationships? How will it deal with the

development of new or improved product or processes that a competitor country has previously developed but the knowledge is not readily available in the industry on normal or acceptable commercial terms or is not applicable to our needs, e.g. climate based product, weed controls?

7.7 If the legislation gets this differentiation wrong the consequences will favour our competitors who are not making this same exclusion. We should not be seeking to limit the capabilities of Australia's research and development programs by narrowing definitions or reducing or excluding related costs. We should recognise that "….Innovation in R&D can be a strategic weapon…." [Innovation in research and development: tool of strategic growth] http://www.emeraldinsight.com/Insight/viewContentItem.do?contentType=Article&hdAction=lnkpdf&contentId=1752311

7.8 From Item 58: "….under the current rules, R&D activities involving large amounts of supporting activities can attract subsidies that are out of proportion to the public benefit."

How has this conclusion been derived? Australia has invested heavily in R&D since changes to the system in 2002 and, similarly, Government funding has been high. At the start of 2008 Australia had the highest cash surplus in its history, our companies and education and science institutes are working and dealing and recognised on a global basis and the economy was never better. Employment, housing, resources, technology, infrastructure and tax inputs to the Government were at their best ever. What does "….out of proportion to the public benefit" mean? Which of the publicly funded R&D initiatives over the past seven years has been to the detriment of the public benefit?

Australia has emerged better than expected from the G.F.C. and we have the opportunity to capitalise on this. Bringing our R&D capabilities down simply because there is perhaps a need to reign in Government expenditure is not the answer to returning to future prosperity.

7.9 Entirely from our own experience, Dobmac were among the last recipients under the now defunct Commercial Ready Grant Scheme. Through this we have developed the world's only mechanical broccoli harvester. This project commercialises in 2010 and will bring considerable benefit to both our own organisation and the public. This project would not have occurred in Australia had the Commercial Ready Grant Scheme not been available to us. As it stands, there are no similar schemes available in Australia now under which this type of project would be feasible for us and any future, high cost developments of this type, or indeed, extensions to the current project, will be taken off shore.

We have an enormous re-investment of our turnover (about 20%) into R&D as a result of the current R&D Tax Concession system. This has taken our company from a turnover of $3.7m in 2002 to $7.3m in 2009. We are only small players on the national scale but our fortunes that have developed from the R&D process enable us to employ 26 permanent staff locally and inject many millions of dollars into the locally economy. Our workforce has grown by 73% since the current R&D legislation came into effect in 2002. Dobmac, like so many Australian R&D companies, work on a global basis. We have many trading partners who seek our experience and advice. The difference for us, between Australian economic benefit and that for New Zealand or U.K. or U.S.A. in relation to our product development may only be some badly written legislation. There are many S.M.E's in Australia who will share this view.

Question 4

Should supporting activities:

(a) be capped as a proportion of expenditure on core R&D?
(i) If so, what would be the appropriate proportion (for example, 1:1)?
(b) only be eligible where they are for the sole purpose of supporting core R&D activity?
(c) exclude production activities or dual role activities?
(d) only be eligible on a net expenditure basis?
(e) attract a lower rate of assistance than core R&D?
(i) If so, what would be the appropriate rate be?

7.10 Items 59 & 60 "Capped as a proportion to core R&D"
Limiting the funding may limit the effort and this then may be detrimental to achieving the appropriate outcome from the R&D project, or may drive the knowledge / product offshore for completion of development and commercialisation.

7.11 Items 61, 62 & 63 "Sole purpose test"
The establishment of a more positive test for activities to meet in order to qualify for the R&D tax incentive is a good move. The devil will be in the definition of those 'other activities' in relation to the 'sole purpose' and how the 'core activity' is described. The answer to this is provided at item 63 - 'predominately' for the purpose of supporting a core R&D activity .

7.12 Items 64 & 65 "Excluding production and dual purpose activities"
These proposed exclusions may deny the R&D company the opportunity to adequately produce, test, acquire technologies and meet legislative requirements that relate to the core component of their project:

- Numerous R&D projects require the licensing of technology or acquisition of patents from third parties. Dobmac's own broccoli harvester project would not proceed without the acquisition of patent rights for a fundamental component of the core design.
- Patent of core components during the development stage may be fundamental to the success of the project. These differ to the patent costs at the completion of the project.
- Market research is crucial to the development of the technical objectives, product specification and viability of the project.
- Post development activities, such as field testing and proving, pre-production tooling-up and trial runs are essential to determine that the technical objectives have been or can be achieved.
- Compliance costs to meet legislated, statutory requirements and standards (as opposed to market imposed standards such as packaging/labels) must be funded as part of the related R&D costs.

7.13 Item 64 states, "The United Kingdom and Canada use this approach…."
The Canadian approach, whilst excluding some activity, is far more generous than the Australian proposal. According to the Canadian, Manitoba Business Facts website at:
http://www.gov.mb.ca/ctt/invest/busfacts/r_d/adv_tax.html

> "Repeated studies by the Conference Board of Canada, have found that the after-tax cost of R&D expenditures in Canada were lower than in all other G-7 nations. Canada's R&D tax credits feature a broad definition of eligible costs, over a wide range of activities. Immediate and full write-offs that reduce federal and provincial taxes are granted for most current and capital R&D expenditures."

These outcomes stem from the broad Canadian definitions encompassed in their tax legislation (ITA) relating to their Scientific Research and Experimental Development (SR&ED) Tax Incentive Program. Subsection 248(1) of the ITA defines the following categories of scientific research and experimental development:

> (a) basic research, namely, work undertaken to advance scientific knowledge without a specific practical application in view;
>
> (b) applied research, namely, work undertaken to advance scientific knowledge with a specific practical application in view;
>
> (c) experimental development, namely, work undertaken to achieve technological advances for the purpose of creating new, or improving existing, materials, devices, products, or processes, including incremental improvements thereto, or
>
> (d) work with respect to engineering, design, operations research, mathematical analysis, computer programming, data collection, testing, and psychological research, where such work is commensurate with the needs, and directly in support, of the work described in paragraphs (a), (b), or (c) above.

The U.K. attitude in this regard has already been outlined at point 6.10 previously.

7.14 Items 66, 67, 68, 69 "Net expenditure only"
This is a step that would likely lead, ultimately, to the application of recoupment approach to the entire project. Not in the best interest of the continuation of research and development but in the interest of preservation of Government funding. This method will create complexity in contravention of the stated purpose of streamlining the R&D incentive system. As noted at item 69, "….This would require rules to be developed, including around the extent of the expenditure to be recouped against and whether these rules should be different across industries."

7.15 Item 70 "A lower rate of assistance for supporting activities"
Embodied in item 70, the statement that "Given that the social benefit expected to flow from expenditure on supporting activities is much less than core R&D…." appears inconsistent with the view of other major countries involved in R&D.

The British R&D Tax Credit System guidelines state that, "R&D ends when knowledge is codified in a form usable by a competent professional working in the field, or when a prototype or pilot plant with all the functional characteristics of the final process, material, device, product or service is produced" This type of commitment would suggest that social benefits in UK are recognised to flow from the project as a whole, not just the core activity.

Russian tax incentives introduced between 2006 and 2008 illustrated the government's initiatives to grow its national R&D spending. Expenditures on new or improved products are now deductible. Additionally, a company conducting scientific research or experimental development work, re-equipping its manufacturing, or engaging in implementation or innovation activity can be granted an investment tax credit.
http://www.taxand.com/news/publications/Taxand_Global_Guide_to_R_and_D_Tax_Incentives

Question 5
Should the current list of activities excluded from being considered core R&D be:
(a) amended in any way?
(b) extended to exclude certain activities from being considered supporting activities?

7.16 The current exclusions are both relevant and appropriate. No amendment is needed. No extension should be considered. Our reasons for this are made clear previously in this commentary.

However, the examples 1, 2 and 3 cited at the end of the consultation paper are cause for concern to us that the system, as it is now, is not being policed adequately, rather than the fact that it may be abused. From our own, long term involvement in the R&D Tax Concession system and our understanding of the current legislation, none of the examples given should have become onerous on the public purse if appropriate audits were conducted and the rules as they exist applied. Changing the legislation, narrowing definitions and creating further exclusions seems to be a way to enable simplistic, remote, bureaucratic denial of a project rather than the audited, appraisal approach that should exist. Many R&D projects that ought to 'get up' perhaps won't under a tighter regime.

Question 6
How should the new R&D tax incentive treat software R&D?

7.17 Items 76 & 77 both provide a guidance towards resolving the software issue. The UK guidelines are very good in this regard and the document at: http://www.innovation.gov.uk/randd/new_rd-guidelines-2004.pdf should be viewed as it contains definitions, guidelines, commentary and examples.

Dobmac are not experienced in this field and cannot adequately comment otherwise.

Summary
The future of R&D in Australia should not be undermined by short sighted economic policy. Other countries have made this same mistake in the past and are reversing their decisions. Considerable evidence exists to support this fact.

If we make R&D less attractive and less workable, we lose not only the technology or the product, we lose the intelligence that lies behind it. Smart people who can do these things will go elsewhere to do them.

Rationalising or restricting funding assistance to R&D firms may, in addition to causing total fall off in technology development for some, result in finance and investment being sought from private sector participants that takes the project off shore.