

Submission on the proposals
in the Consultation Paper on the
New Research and Development Tax Credit Scheme

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1. Executive Summary

This submission was prepared by Dr Terry Freund of Blue Sky Advisory Services. I consider that I am well qualified to respond to the Consultation Paper on the new Research and Development Tax Credit Scheme. My background includes performing various R&D Tax Concession roles in administration and management while working for Ausindustry in the period 1986 to 2002 and as a consultant providing R&D Tax Concession services since 2002.

Many proposals in the consultation paper are supported including increasing the basic benefit for both small and larger companies and abolishing the premium 175% concession.

The continuation of the offset in the form of the refundable tax credit is fully supported. It is my observation that SMEs generally invest the offset refund into performing subsequent R&D which otherwise would not be undertaken. Therefore R&D expenditure by SMEs is highly sensitive to the level of financial benefit they may receive from the new scheme.

The proposes changes to the definition and scope of research and development in the Consultation Paper are not supported. The changes will reduce the scope of what is eligible, particularly at the “D” end of R&D and where R&D is performed in a production environment. The Consultation Paper at para 14 acknowledges that eligibility is being tightened for the purpose of ensuring that the new scheme is revenue neutral over its first four years.

However it is noted that merely abolishing the 175% premium may be sufficient to ensure revenue neutrality without additionally tightening eligibility. Modelling on this by the Copmmonwealth has not been made public. On the other hand, Kris Gale of Michael Johnson & Assoc using the limited public data available is able to demonstrate that solely abolishing the 175% premium may be sufficient to balance the additional basic benefits for both small and large companies in term. The Commonwealth is being dishonest with Australian companies if this is the case.

The rationale for government supporting R&D, as identified at paragraphs 8 and 12 in the Consultation Paper is for producing “net benefits” for the Australian community and for what is termed “additionality” and “spillover.”

This paper will argue that tightening eligibility may have negative net benefits for both the Government and the community and that additionality and spillover” frequently applies to the “D” end of R&D performed by SMEs.

The reasons for this include:

Australia currently faces its greatest technical challenge ever. **The Prime Minister of Australia announced at the Bali conference that by 2050 Australia would reduce emissions by 60 per cent over 2000 levels.** In the same period the population of Australia is now forecast to almost double. Therefore greenhouse gas emissions per person will need to be reduced to about 20% of their current level, ie from about 27 tonnes to between 5 and 6 tonnes of CO₂ equivalents per person.

I do not believe that the enormity of this technical challenge has sunk in – I have not seen the need to reduce greenhouse gas emissions to about 20% per person published or otherwise stated

in public. The Garnaut Report Climate Change Report, 2008 does not consider the impact of the forecast population increase.

In order to achieve such a radical reduction in greenhouse gas emissions, it is most likely that major technological change will be needed in everything we do and use. The move to total zero emission electricity will be far from sufficient to achieve an 80% per person reduction since electricity production results in less than 50% of Australia's current greenhouse gas emissions.

Tightening the eligibility may be counterproductive in achieving 80% reduction – it is likely to increase the economic cost of achieving targets, the risk of not achieving targets and reduce the ability of Australian industry to provide solutions that will enable third world countries to reduce greenhouse gas emissions. The reasons are detailed in part 2 of this submission.

Another area where accelerated development would provide community benefits and directly benefit the Commonwealth is developing new and innovative services to run on the proposed National Broadband Network (NBN) which is projected to cost the Commonwealth and the private sector \$43B over 8 years. The viability and payback period of this very major investment will depend on the level of use and benefits to users. This will in turn depend on new and innovative services becoming available that provide additional benefits to business, educational and other end users of the network. Tightening eligibility may limit the ability of Australian companies to develop such services and in turn negatively impact on community benefits and the viability of the Commonwealth's investment.

Other issues and problems in tightening eligibility as proposed are:

- The proposed revisions are likely to increase uncertainty, complexity and compliance cost for SMEs. This is detailed in part 3 of this submission.
- It may negatively and severely impact on the value of refundable tax credit for many SMEs since they are more likely to undertake R&D in a production environment.

This and recommendations that may reduce the risk of fraud, and simplify the scheme are outlined in parts 3 and 4 of this submission

2 Climate Change Case For Not Tightening Eligibility

Reducing greenhouse gas emissions by almost 80% per person by 2050 represents an enormous technical challenge for Australia and tightening the eligibility of the new tax Credit Scheme may jeopardize our ability to achieve this and add to the economic and social cost of achieving specific targets. If the economic and social cost is too high, the political will may be weakened resulting in Australia falling short of its 2050 and interim targets.

The Garnaut Report Climate Change Report, 2008 stresses the benefits of R&D in respect to reducing greenhouse gas emissions:

“Basic research and development of low-emissions technologies is an international public good, requiring high levels of expenditure by developed countries”.

The Garnaut Report recommends that 20% of the revenue raised from an ETS be used “to support for research, development and commercialisation of new technologies” and subsequently indicates that R&D tax concessions are means for supporting these types of activities.

Thus, if the Commonwealth is concerned about the cost to revenue of the new scheme, then a small amount of revenue from an ETS could be allocated to the new scheme. For example, if the cost to revenue of the new scheme is \$1.3B and 20% of this is for low emission projects, then \$260M of revenue from the sale of ETS permits could be allocated to partly financing the new scheme.

The Garnaut Report supports the case that Government should support the “D” end of low emission R&D by recommending that “early movers” should be rewarded:

“The early movers of a new industry are those that undertake the first demonstration and commercialisation projects. The spillovers from these early mover activities mean that in the absence of government intervention, there will be suboptimal levels of private investment in demonstration and commercialisation in most new industries, the early movers bear all the costs of demonstrating and bringing a new technology to market, while later movers share in all the associated benefits that spill over directly from the early movers’ investments. These spillovers can result in a strong disincentive for any firm to be a pioneer and result in an undersupply of demonstration and commercialisation activities. For some new industries, multiple spillovers may result in no activity at all.”

What Garnaut may be construed as stating is that there should be incentives where a prototype or pilot plant, which involves bring a new technology to market, is used for both R&D and production purposes. His reason – the spillovers that may result.

On the other hand, the Consultation Paper is presenting options that may discourage early movers resulting in sub-optimal levels of private investment in demonstration and commercialisation. The options include excluding any production activity by means of a sole purpose test, excluding production activities, and limiting to net expenditure or a lower rate for supporting activities. All are likely to reduce the financial benefit offered by the new scheme to many early movers.

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The slightly earlier draft Garnaut Climate Change Review Report covers this issue from a slightly different perspective:

“Demonstration and commercialisation: The new knowledge generated by early research is applied to the real world through pilot, demonstration and first commercial-scale projects. These activities tend to be capital intensive in nature, requiring research bodies or firms to take on substantial risk since the technology is yet to be proven in the intended operating environment. Because the technology may not yet be cost-competitive (even after factoring the impact of a price on emissions), commercial returns are problematic. Projects must therefore rely on high-risk venture capital funding, government support, niche market support or philanthropic patronage. Some studies have termed this phase ‘the valley of death’, where most technologies fail either technically or financially.”

Based on what is Garnaut is saying, limiting the funding of activities that are carried out in a production environment where risk is high may be a factor that results in both companies and worthwhile projects failing for financial reasons.

Garnaut is also observing that technical risk at the "D" end is frequently high and a cause of failure. I have observed many occurrences where significant, expensive and unforeseen technical problems and challenges arise when R&D is performed in a production environment or a prototype device or plant intended for sale as well as for R&D purposes is trialled at a customer's site.

The 2007 Shergold Report on the Task Group on Emissions Trading supports similarly supports Garnaut on the importance of R&D in addressing climate change. For example it states:

"The scale of the global abatement task is such that it will require the development and deployment of currently immature and new breakthrough low-emissions technologies for all sectors of the economy. By their very nature, we cannot at this stage know which of these technologies will be successful. Attempts to 'pick winners', or to rule out any particular approaches, carry high risks and add to the cost of achieving the needed abatement."

This report is warning against picking winners and this implies a role for the new scheme to fund the thousand of market driven projects needed to reduce emissions by nearly 80% per person. My conclusion, from nearly 30 years working on both R&D Tax Concession and grant schemes within government and as a consultant, is that grants are neither efficient nor effective in supporting R&D and its commercialisation. Companies need to expend considerable resources on preparing a grant application, an answer may take up to 6 months and the effort is wasted if the application is declined. This happens in a high proportion of cases within most grant schemes. In addition, the costs to government in managing a grant scheme are high.

The Shergold report also reports that accelerated development of low emission technologies may have major economic benefit. Shergold commissioned an ABARE study and reports:

"ABARE provided the Task Group with a further global action scenario. Scenario 5 assumes accelerated technology development and uptake but is otherwise directly comparable to Scenario 4. The enhanced technology development and uptake assumed in Scenario 5 reduces the cost to Australia of achieving the target by one-third, from 1.5 per cent to 1 per cent of GDP in 2030 relative to the reference case. This highlights the potential for enhanced technology development and uptake to significantly reduce the costs of emissions abatement."

Key features of Scenario 5 include the accelerated uptake of advanced and hybrid vehicles; higher efficiency in the generation of electricity, cement, aluminium, iron and steel, pulp and paper products; and the accelerated adoption of more efficient technologies in the services sectors. Enhanced development and deployment of more energy-efficient and low-emissions technologies to 2030 is also assumed (in line with assumptions in the Global Technology scenario in Matysek et al. (2006), with modifications to assumptions about energy consumption by the services and chemicals, rubber and plastics industries).

The enhanced technology assumed in Scenario 5 on its own would have reduced global emissions by about 10 per cent relative to the reference case at 2030. This could be viewed as 'equivalent' to bringing forward the reference case 'global' technology profile by about five to six years".

Based on what I am observing with my client group it is likely that an increasing number of low emission projects will be supported by the new scheme, I am aware of a new, Australian low emission technology which will have more than 50 applications in transport, mining, agriculture and manufacture. Each application will involve developing an integrated solution specific for that application, provide many low emission, productivity and other benefits and involve R&D. My guesstimate of the proportion of R&D Tax Credit Scheme projects that will involve low emissions as a technical objective within about 5 years:

- 10 to 30% where low emissions is the primary objective
- a further 20 to 50% where low emissions is a secondary objective.

Since the new scheme will be a means for funding low emission projects and ones that address the various impacts of climate change, it is recommended that revenue from ETS permits be used to fund part of the scheme in proportion to the relative value of such projects supported and that eligibility be not tightened..

3 Some potential difficulties for SMEs if eligibility is tightened as proposed

The proposals to tightened eligibility proposed in the consultation paper includes the following

- (1) requiring core activities to involve both innovation and a high level of technical risk .
- (2) limiting supporting activities – a number of options are proposed including sole purposes tests, net expenditure and a reduced assistance rate.

Tightening eligibility may require core and supporting activities to be distinguished since they may be treated differently. This will cause complexity, confusion and uncertainty for SMEs.

This may be illustrated by the following example which involves developing a mechanical device and includes constructing a prototype that will be sold.

The construction activity may be a straight forward workshop activity exercise and therefore be classified as a supporting activity. Alternatively, the construction activity may involve constructing, testing and modifying components and therefore have all the elements of a core activity. This will, at the very least, add to the complexity since the SME will need to determine whether the activity is core or supporting and then apply some eligibility or accounting rule if it is supporting.

Or alternatively, AusIndustry may argue that the construction activity, classified by the claimant as a core activity, is in fact a “blended” activity and needs to be broken down into smaller “core” and “supporting” components. For a SME, this will result in complexity, uncertainty and add to the compliance cost.

The example after para 54 in the Consultation Paper can be used to identify another problem that may result from the requirement that core activities involve both innovation and a high level of technical risk. A variation of this example is that the R&D fails to solve the problem and no novel device was created. This may mean that innovation is not involved and the project is not

eligible. Or will the intention to innovate be sufficient to comply with the innovation requirement? It is noted that projects fail for the reason of high technical risk which cannot be resolved. This is the nature of R&D. The implication is that a company in good faith may commence and undertake an R&D project with high technical risk believing that it is eligible and then finds that it is not eligible when technical failure occurs. This may also apply to a project that is abandoned early before any innovative break-through for a commercial reason such as a change in market need?

Tightening eligibility as proposed may penalize Australian SMEs to a degree that proportionally greater than larger companies. For example, SMEs mostly do not have separate R&D facilities and R&D frequently needs to be carried out in a production environment. In other cases, it may not be possible to disentangle R&D and production related activities or major technical problems may only arise during trials at a customer site. If one of the supporting activity options proposed is adopted, many SMEs are likely to be penalized for the above reasons.

Finally, it is noted that the core definition and options proposed for supporting activities may be narrower than in the Frascati Manual, 2002. Paragraph 84 in the Manual defines a core activity as *“an appreciable element of novelty and the resolution of scientific and/or technological uncertainty, i.e. when the solution to a problem is not readily apparent to someone familiar with the basic stock of common knowledge and techniques for the area concerned.”* In respect to core activities, the current lengthy definition of a “high level of technical risk” is much narrower than the Frascati Manual *“resolution of scientific and technical uncertainty”*. It is not specified in the Consultation Paper that the current lengthy definition of a “high level of technical risk” will continue be used in the legislation for the new scheme.

Adoptions of one of the options proposed for supporting activities may reduce the scope of supporting activity entitlement to less than what is considered to be a supporting activity in the Frascati Manual.

4 Recommendations on simplifying the scheme and reducing the risk of misuse

The following is recommended:

- Overseas R&D rules be simplified, eg that overseas expenditure including incidental items such as travel be limited to 5% of total expenditure in a year and that there be no need for advance approval.
- That eligible expenditure for the purpose of obtaining refundable tax credits be limited to expenditure where the cash payment has occurred. This may limit finance schemes based on deferred expenditure that is possible with accrual accounting. Why should taxpayers be literally handing out cash in respect to expenditure where the monetary transaction has not yet occurred and may never happen if the company for whatever reason is unable to pay its debts?
- Registered Research Agencies (RRA) be abolished. It is unlikely that they have served a major useful purpose and the concept has been the “abused” in at least two finance schemes, for example in R&D Tax Syndication, which resulted in billions of taxpayer money being largely wasted. I understand that attempts to apply RRAs in finance

schemes continue and may become attractive through raising the base refundable amount from 37.5 to 45 cents in the dollar.

The first two examples at Attachment A may represent examples where large companies using skillful consultants are “pushing the boundaries”. An issue is why tighten eligibility across the board in a manner which negatively and significantly impacts on SMEs when the purpose of tightening eligibility is to reduce exploitation by large companies in the manner of Example 1? One alternative may be to limit the scope of mining operations as R&D.. It is probable that in most lining operations claimed as R&D, “spillover” is minimal since most deposits have unique characteristics and the activity would have occurred in any case.