Chief Executive
2nd Floor Development House
76 The Esplanade
Darwin NT 0800
GPO Box 3200 Darwin NT .801
Tel: 8999 5461
Fax: 8941 1284
www.nt.gov.au/dberd

Our ref: IKE2006/0009
Your ref:

Mr Gary Banks
Chair
Productivity Commission
PO Box 80
BELCONNEN ACT 2616

Re : Public Support for Science & Innovation

Dear Mr Banks

The Northern Territory Government commends the Productivity Commission for the rigour it has brought to its study of public support for science and innovation. The final report should serve as a watershed for future policy setting and funding for science and innovation.

1. The importance of Public Good CRC's to the Northern Territory

The Northern Territory Government has expressed its concern that should the Commonwealth reduce funding for public good research, the Territory economy would be disproportionately affected. It therefore welcomes the Productivity Commission draft finding 4.1 '…*that there are significant positive economic, social and environmental impacts from publicly supported science and innovation*', acknowledging the importance for government programs to maintain a balance between pure basic research and commercial product development.

The Northern Territory Government supports the draft findings 9.4 and 9.5 pertaining to the CRC Programme.

Draft finding 9.4

The CRC program could be improved in several ways:

- *the original objectives of the program – the translation of research outputs into economic, social and environmental benefits – should be reinstated. This is likely to produce better outcomes than focusing public support on the commercialisation of industrial research alone; and*

- *the share of public funding should be aligned to the level of social benefits provided by each CRC, thereby reducing some the large rates of subsidy to business collaborators.*

The Northern Territory faces significant challenges especially in managing the environment and its natural resources and health and social issues. While the Northern Territory excels in its research output, it nevertheless has limited capacity across all sectors because of its

size. The Northern Territory Government is concerned that the growing focus of the CRC Programme on commercial outcomes will limit the competitiveness of long term strategic collaborations that are in the national interest. In the Northern Territory, the CRC for Aboriginal Health and the Desert Knowledge CRC play important roles in the future health and well-being of both Indigenous and non-Indigenous Territorians. The CRCs are vital contributors to long term regional development, with each due to make a rebid in 2008.

The Northern Territory Government gives high priority in its research activity to investment in the CRC Programme. Currently, the Northern Territory Government is a core partner in three CRCs each headquartered in the Northern Territory. Taking into account this and other CRCs in which the Northern Territory Government has a supporting role, the Northern Territory Government commits around $35m in cash and in kind over a notional seven year period (the funding cycle for a CRC). While difficult to estimate precisely, the Territory conservatively receives more than $100m in cash and in kind over that same period from external sources.

The recent re-focussing of the CRC Programme away from objectives and selection criteria that support public good CRCs will have a significant negative impact on the Territory's capacity to engage in the CRC Programme in the future, should the current criteria be maintained. As indicated above, CRC participation brings with it important economic benefits to the Territory's research economy. The Territory's small private sector, and consequent narrow private sector research base, limits public-private collaborative opportunities, and thus the ability for Territory centred CRCs to compete with eastern seaboard counterparts for research funding where private industry participation is given pre-eminence.

The implications for the Northern Territory and for the Northern Territory Government in particular if engagement with the CRC Programme were to fall away include:

- loss of research income currently generated through the CRC Programme estimated to be in the order of $15m per annum to the research economy;
- reduced access to the high level networks of researchers and research users across the sectors that the CRC Programme currently facilitates; and
- reduced access on the part of Northern Territory Government agencies in particular to research funding generated by the CRC Programme and to research outcomes and knowledge transfer that play a significant role in sustainable economic development.

More broadly, diminution of the engagement in the CRC Programme certainly will impact the Northern Territory's growing knowledge economy, particularly with regard to its comparative advantage in tropical and desert knowledge.

Draft finding 9.5

> *A complement to the CRC program with broader collaboration goals could be developed which supports smaller, shorter and more flexible collaborative arrangements between groups of firms either independently or in conjunction with universities and public sector research agencies*.

Were the Commonwealth to consider the Productivity Commission recommendation to reinstate the original CRC guidelines, the way would be open to establish a complementary program that brought together the private sector and public research agencies and

universities but with more flexible arrangements. Any new programs will need to ensure that the criteria are sufficiently flexible to promote participation by smaller jurisdictions such as the Northern Territory, where there is very limited private sector capacity and relatively limited resources in research and development across all sectors.

2. Regarding the value of case studies as an indicator of cost:benefit

Chapter 4 of the Productivity Commission draft report dealing with research impacts addresses the relative merit of case studies as a measurement tool. Broadly it concludes there are a number of advantages over the econometric methods especially as case studies usually

- provide lessons about research investment decision processes;
- identify costs as well a benefits (and beneficiaries and losers); and
- provide insights into the mechanisms by which research produces benefits. (page 4.31)

should the current criteria are maintained the disadvantages include

- that the projects usually are not randomly selected and so give a biased indicator;
- it can be hard to determine the magnitude of any impacts because of the difficulties defining a counterfactual and the complexities of attributing outcomes to projects when outcomes are the result of joint research; and
- case studies do not provide measures of the impacts of marginal projects, but give information about average benefits and costs. Average benefits in any one study do not provide evidence about whether more public support should be provided, only about whether that particular project was worthwhile. (page 4.32)

The Territory supports the use of case studies to demonstrate benefits from public investment in research and innovation programs, acknowledging the relative paucity of data in this area. The Territory also supports further development of ABS surveys, both the R&D and Innovation Surveys, including greater comprehensiveness within each survey and increased frequency in conducting the surveys.

3. Business Programs: Reforms of general business R&D funding arrangements

The draft Report notes that the R&D tax concession is the most important single mechanism for public funding support of business R&D and has the advantage over grant programs in that it leaves businesses with the flexibility to undertake the kinds of R&D suited to their business strategies and needs.

The report reviews three types of tax concessions, two of which are described here to provide context for a proposed reform of concern to the Northern Territory:

- *Basic 125% tax concession for investment in R&D*

  All Australian companies undertaking eligible R&D activities are entitled to claim a concessional deduction in their annual tax returns of up to 125% of qualifying expenditure incurred on eligible R&D activities.

- *R&D incremental tax concession (175% Premium)*

  This allows companies to deduct 175% of additional expenditure incurred on certain types of R&D activities. To claim the premium concession, companies must have

increased their R&D expenditure for the year above a base level determined by their average R&D expenditure over the previous three years. Companies therefore require a three-year history of registering for, and claiming, the R&D Tax Concession, or of receiving grants for R&D projects under the Industry R&D Board's R&D Start program.

In its search for options to achieve greater efficiency and effectiveness in the provision of public monies for R&D, the Commission indicates that the criteria to access the 125% tax concession do not screen out R&D that businesses would have invested in without the concession. The Report concludes that this concession is therefore increasing costs without stimulating additional R&D, resulting in a reduction in the likely net benefits of the program.

The draft Report proposes two options to shift the R&D concession away from the generally available 125% subsidy to the 175% incremental component of the program:

1. maintaining the basic concession for small firms, whose R&D is more responsive to the subsidy, but using the 175% incremental component as the principal vehicle for stimulating business R&D, or
2. removing the basic concession entirely and shifting completely to the 175% incremental component if threshold issues about firm size were considered to provide adverse incentives for the growth of small R&D enterprises.

The Northern Territory Government recognises that productivity growth is the most important way to generate competitive advantage in the provision of goods and services and drive long-term economic growth. Further investment in technology, research and development is vital to continuing expansion of productivity. To this end, the Northern Territory Government's policies on economic development have a primary objective that focuses on increasing productivity in the private and public sector. Progress toward this objective will be monitored using business expenditure on R&D (BERD) as a proxy for private sector innovation.

Australia's BERD/GDP ratio is low compared with other OECD countries, falling well below the OECD average. For the Northern Territory and in amplification of this poor position, Territory BERD/GDP ratio is low compared to the national average, a situation the Territory Government has set out to improve over the coming decade through its Economic Development Strategy.

The low business investment in R&D in the Territory may be explained by the Territory's economic structure, in particular the lack of critical R&D mass due to its small size, and smaller than average Manufacturing sector (Manufacturing contributed by far the largest proportion of total Australian BERD in 2004-05).

Nevertheless the fact remains that the Territory needs to continue to develop its R&D capacity and output to continue making productivity gains, with small and medium Territory businesses having a key role to play. As such the Productivity Commission's proposal to possibly remove the basic R&D concession entirely, which would have severe negative consequences for small firms (which the Commission agrees are "more responsive to the subsidy") is of concern.

The Northern Territory's position on the proposed reforms is that the basic 125% concession is the primary incentive for small businesses across Australia to engage in R&D as firms with no R&D track record can access the subsidy right at the start of the experimental process. While large firms may have the ability to undertake R&D programs with their own resources and access the 175% incremental subsidy for additional research, small firms do not have the same luxury.

This is a particular concern in the Territory which has very few large firms. The outcome is very likely to be a decrease in business R&D expenditure.

For these reasons, in the interests of promoting business R&D expenditure in the Territory and across Australia, it is strongly recommended that the basic R&D tax concession be maintained, and perhaps even extended beyond 125% in support of improving our international performance in business expenditure on R&D.

4. Multifactor productivity (MFP) growth in the Northern Territory

Appendix H (page H.4) notes that all States exhibited growth in multifactor productivity (MFP), from 1990/91 to 2004/05 except the Northern Territory which had declined. The Report explains that this trend could be an artefact related to an inability to measure this indicator accurately in small jurisdictions with developing economies.

Based on the same methodology used in the current study, an assessment by this Department indicates that in the last two years (2004/05 and 2005/06), MFP growth has been higher than the ten-year average. The MFP calculations are based on the revised national accounts data released in November 2006.

Small economies present some problems in estimating MFP (data issues, market structure, etc.) but the impact of these issues on MFP estimates in the Territory is unknown. Given the low growth in the Territory MFP (and negative growth in some years) and low MFP contribution to Gross State Product (GSP), estimating the contribution of R&D to growth in the Territory will continue to be a challenge.

I look forward to the release of the Final Report.

Yours sincerely

RICHARD GALTON
December 2006