



**Parliament of Australia**  
**Parliamentary Budget Office**

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**Parliamentary Budget Officer**

Senator Christine Milne  
Leader of the Australian Greens  
Parliament House  
CANBERRA ACT 2600

Dear Senator Milne

Please find attached a response to your costing request, *Increasing research and development investment* (letter of 14 August 2013).

The responses to these requests will be released on the PBO website ([www.aph.gov.au/pbo](http://www.aph.gov.au/pbo)).

If you have any queries about this costing, please do not hesitate to contact Colin Brown on (02) 6277 9530.

Yours sincerely

Phil Bowen

19 August 2013



## COSTING – ELECTION CARETAKER PERIOD

Name of proposal:	Increasing research and development investment
Summary of proposal:	<p>The proposal would increase total public and private sector investment in research and development (R&amp;D) to 3 per cent of Gross Domestic Product (GDP) by 2020.</p> <p>The intention of the proposal is to increase Australia's R&amp;D investment.</p> <p>The proposal would have effect from 1 July 2014.</p>
Person/party requesting costing:	Senator Christine Milne, Australian Greens Party
Date costing request received:	14 August 2013
Date costing completed:	19 August 2013
Date of public release of policy:	14 July 2013
Agencies from which information was obtained:	Not applicable

### Costing overview

Increasing total public and private sector investment in R&D to 3 per cent of GDP by 2019-20 is estimated to decrease the underlying cash and fiscal balances by around \$2.1 billion over the 2013-14 Budget forward estimates period. This impact reflects an increase in expenses of \$1.8 billion that includes direct R&D expenditure and an impact from the refundable R&D tax concession. It also reflects a decrease in company tax revenue of \$300 million associated with the increase in non-refundable R&D tax concessions that flow from the assumed increase in private sector R&D expenditure over this period.

This proposal would have an ongoing impact that extends beyond the forward estimates period.

The financial impact of this proposal includes both revenue and expense impacts. A detailed breakdown of the revenue and expense components is included at [Attachment A](#).

The PBO estimates that departmental expenses associated with this proposal would not be significant and have not been included in the costing.

This costing is considered to be of medium reliability as it is based on several assumptions and aggregate data.

The estimates in this costing differ from those presented in the applicant's costing request because GDP growth rates have declined since the previous costing referred to. The estimated financial implications included in applicant's request should have been negative.

## POLICY COSTING – ELECTION CARETAKER PERIOD

**Table 1: Financial implications (outturn prices)<sup>(a)</sup>**

Impact on	2013-14	2014-15	2015-16	2016-17
Underlying cash balance (\$m)	-	-200	-700	-1,200
Fiscal balance (\$m)	-	-200	-700	-1,200

(a) A negative number for the underlying cash and fiscal balances indicates a combination of an increase in payments/expenses and a decrease in receipts/revenue in cash and accrual terms. Estimates have been rounded to \$50 million.

### Key assumptions

Assumptions detailed in the costing request:

- The proportion of total R&D expenditure being contributed by the Government remains constant over time at 29 per cent. Government contributions would increase proportionally with increased private sector investment.
- The proposal would apply from 1 July 2014.

The PBO has made the following assumptions in calculating the estimated impact of this proposal:

- The Government is able to persuade the private sector to increase R&D spending in line with achieving the 3 per cent of GDP target by 2020.
- Increased Government R&D expenditure only includes direct R&D spending and does not include the R&D tax offsets (that is, this costing assumes no changes are being made to the existing R&D concessions).
- Nominal GDP was projected forward over the period to 2019-20 to determine the value of additional R&D that is required to meet the 3 per cent target. This was based on the growth in nominal GDP from the 2013 Pre-Election Economic and Fiscal Outlook (PEFO) report.
- R&D expenditure increases evenly over time in order to meet the 3 per cent target.
- It is assumed that the private sector (currently contributing around 70 per cent of total R&D spending) is able to increase its expenditure on R&D in proportion to the increase in Government spending to meet the 3 per cent of GDP target.
- Government spending on R&D is assumed to be paid within the year it accrues.
- A number of assumptions were made to determine the estimated financial impact of this proposal on the existing R&D tax incentive including:
  - *Tax Expenditures Statement* data was used to inform an assumption that 75 per cent of new private R&D expenditure would be eligible for the 40 per cent non-refundable offset and that 25 per cent would be eligible for the 45 per cent refundable offset
  - each year 75 per cent of taxpayers claiming deductions under the 40 per cent non-refundable R&D offset are assumed to be able to utilise those deductions against taxable income
  - a 25 per cent imputation system ‘clawback’ is assumed to offset the impact of the R&D tax incentive on this costing, and
  - timing of the R&D tax incentive impact is assumed to be 100 per cent on assessment, that is, in the next financial year.

## **POLICY COSTING – ELECTION CARETAKER PERIOD**

### **Methodology**

The costing was estimated by calculating the total expenditure and revenue impacts under the proposal and subtracting total base Government expenditure and revenue impacts associated with the current and projected level of R&D expenditure.

### **Data sources**

- R&D expenditure is based on Australian Bureau of Statistics (ABS) data from 2000-01 to 2008-09.
- GDP estimates are based on ABS data and growth rates as per the PEFO.

**POLICY COSTING – ELECTION CARETAKER PERIOD**

**ATTACHMENT A: DETAILED FINANCIAL IMPLICATIONS**

This attachment provides a breakdown of the financial implications of the proposal to increase investment in R&D to 3 per cent of GDP by 2019-20.

**Total financial implications (outturn prices)<sup>(a)</sup>**

Underlying cash and fiscal balance:	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
<i>Expense (\$m)</i>							
Various Commonwealth agencies and major grants schemes	-	-200	-600	-1,000	-1,450	-1,900	-2,400
<b>Total – Expense</b>	<b>-</b>	<b>-200</b>	<b>-600</b>	<b>-1,000</b>	<b>-1,450</b>	<b>-1,900</b>	<b>-2,400</b>
<i>Related Revenue (\$m)</i>							
Australian Taxation Office	-	-	-100	-200	-350	-500	-650
<b>Total – Revenue</b>	<b>-</b>	<b>-</b>	<b>-100</b>	<b>-200</b>	<b>-350</b>	<b>-500</b>	<b>-650</b>

(a) A negative number for an expense item indicates an increase in expenses in accrual and cash terms. A negative number for a revenue item indicates a decrease in revenue in accrual and cash terms.

Increasing investment in R&D to an amount equal to 3 per cent of GDP by 2019-20 is estimated to cost around \$2.1 billion over the 2013-14 forward estimates period.

Beyond the 2013-14 forward estimate period the costing’s profile is estimated to continue to step up as specified in the costing request until 2019-20. Beyond 2019-20 growth is expected to be in line with general GDP growth.

Estimates beyond 2016-17 are indicative estimates only and are of low reliability due to the uncertainty relating to longer run projections. The estimates for these periods should therefore be taken to represent an order of magnitude of the impact only.