

TABLE 1 Summary of Major Commonwealth Support* for Science and Innovation, through the Budget and Other Measures (\$m)

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	<i>est cash**</i> 1999-00	<i>accr</i> 1999-00	<i>est accr</i> 2000-01	<i>est accr</i> 2001-02
MAJOR FEDERAL RESEARCH AGENCIES										
• Defence S&T Organisation	268.5	247.4	267.6	254.9	245.5	249.2	255.1	269.3	287.9	284.3
• CSIRO ¹	460.4	460.8	416.7	433.9	466.8	475.4	495.7	617.1	611.0	614.7
• Other S&T Agencies	238.1	232.0	239.4	283.3	260.0	248.5	249.3	320.2	409.2	450.3
• SUB-TOTAL	967.0	940.2	923.6	972.2	972.3	973.1	1000.2	1206.6	1308.1	1349.3
SCIENCE AND TECHNOLOGY SUPPORT										
• NH&MRC and other health	142.4	151.8	163.0	166.1	173.6	193.7	186.3	186.3	251.1	379.2
• Cooperative Research Centres	90.6	103.7	132.7	143.1	146.9	142.3	137.5	137.5	139.8	142.5
• Rural R&D contributions	117.0	130.5	126.5	126.0	140.5	150.2	139.2	139.2	140.9	143.4
• Energy and environment	19.1	19.1	19.6	11.4	25.2	8.0	8.6	8.8	15.0	20.9
• Other science support	7.6	11.6	26.3	31.7	42.1	27.6	36.5	36.5	34.3	29.4
• SUB-TOTAL	376.7	416.7	468.2	478.3	528.3	521.9	508.0	508.2	581.1	715.4
INNOVATION SUPPORT										
• IR&D tax concession ²	685	675	800	430	400	440	460	460	470	465
• R&D Start and related programs	-	-	-	56.4	91.2	129.2	156.8	156.8	155.1	160.2
• Other innovation support	123.8	129.4	117.2	58.2	24.0	89.6	112.9	112.9	63.8	133.4
• SUB-TOTAL	808.8	804.4	917.2	544.6	515.2	658.8	729.7	729.7	688.9	758.6
HIGHER EDUCATION RESEARCH³										
• Australian Research Council									247.8	262.4
• Other R&D support									1558.4	1609.4
• SUB-TOTAL ³	1299.4	1380.8	1505.3	1613.2	1677.9	1739.7	1743.2	1783.1	1806.2	1871.8
TOTAL COMMONWEALTH SUPPORT										
• % GDP	0.767	0.746	0.751	0.676	0.653	0.654	0.630	0.669	0.654	0.670

SOURCE: Aggregated from Tables 2, 3 and 4.

* For the years up to 1998-99, the figures in the table represent cash outlays. From 1999-00, they represent accrued expenses funded by Government.

** Estimated to approximate cash accounting expenditure of earlier years.

- (1) Includes funding for the Australian Animal Health Laboratory appropriated via the Department of Agriculture, Forestry and Fisheries (\$6.4 million in 2001-02). In addition to the funding through direct appropriations shown in Table 1, CSIRO is expected to receive external earnings in 2001-02 that will bring its total budget to \$902 million.
- (2) The amounts indicated for the R&D tax concession are estimates only and are rounded to indicate this. The estimates presented in the table relate to the year in which companies undertake the R&D for which they subsequently claim the concession. They depend on data published in the *Taxation Expenditures Statement 2000* and will require revision as new taxation data become available. See footnote 6 to Table 4 for further detail.
- (3) New arrangements regarding funding and operation of the Australian Research Council (ARC) mean that the previously published breakdown for higher education research is not comparable with that shown for 2000-01 and 2001-02. However, the sub-totals shown are comparable throughout the series.

TABLE 2 Commonwealth Support* for Major Research Agencies (\$m)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	<i>accr</i> 1999-00	<i>est accr</i> 2000-01	<i>est accr</i> 2001-02
AGRICULTURE, FISHERIES AND FORESTRY										
Contribution to CSIRO for Australian Animal Health Laboratory	6.0	5.9	6.2	5.8	6.0	6.1	6.1	6.1	6.2	6.4
DEFENCE										
Defence Science and Technology Organisation ¹	241.5	268.5	247.4	267.6	254.9	245.5	249.2	269.3	287.9	284.3
EDUCATION, TRAINING & YOUTH AFFAIRS										
Anglo-Australian Telescope	3.1	3.1	3.0	3.2	3.3	3.5	3.6	3.7	3.7	3.7
ENVIRONMENT & HERITAGE										
Antarctic Division	65.4	61.0	61.3	63.1	59.4	61.9	62.7	93.9	103.2	100.7
Bureau of Meteorology Research Centre (BMRC) ²	3.3	3.6	3.6	4.0	4.4	4.5	4.4	10.2	11.2	11.5
Environmental Research Institute of the Supervising Scientist ²	7.6	6.6	6.5	6.0	5.4	4.3	4.2	6.5	7.6	7.7
HEALTH & AGED CARE										
Australian Institute of Health & Welfare (excl. grants)	6.8	7.2	8.1	7.1	7.6	7.7	7.7	8.1	7.9	8.0
Commonwealth Serum Laboratories ³	6.9	16.7	-	-	-	-	-	-	-	-
INDUSTRY, SCIENCE & RESOURCES										
CSIRO	456.2	460.4	460.8	416.7	433.9	466.8	475.4	617.1	611.0	614.7
Australian Nuclear Science & Technology Organisation ⁴	68.2	64.2	66.2	65.6	63.7	72.7	74.5	104.6	180.9	221.6
Australian Institute of Marine Science ⁴	14.2	16.9	16.5	16.6	16.4	16.4	18.5	25.0	26.1	27.3
Kraft Pulp Mill study (CSIRO)	1.9	1.9	-	-	-	-	-	-	-	-
Aust. Geological Survey Organisation ⁵	54.2	50.9	60.5	68.0	117.1	82.9	66.8	62.1	62.4	63.4
TOTAL	935.3	967.0	940.2	923.6	972.2	972.3	973.1	1206.6	1308.1	1349.3

SOURCE: Financial data have been provided and confirmed by the agencies and departments listed in the table.

* For the years up to 1998-99, the figures in the table represent cash outlays. From 1999-00, they represent accrued expenses funded by Government.

- (1) DSTO expenditures shown here include overhead components funded under other Defence programs, such as salaries for service personnel, FBT, superannuation and some administrative support costs. These have been added to the DSTO figures published in the Budget Papers.
- (2) The accrual data include items such as superannuation, overheads, and funds in trust accounts which were not included in the cash expenditure data.
- (3) Excludes Budget funding for the CSL Reference Centre, which was mainly for the production of antivenom rather than R&D.
- (4) These figures include capital appropriations. For ANSTO, the capital is primarily for construction of the new research reactor.
- (5) The outlays in 1996-97 and 1997-98 included major expenditure on capital works.

TABLE 3 Major R&D Granting Programs and other Support* for Science and Innovation through the Budget (\$m)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	accr 1999-00	est accr 2000-01	est accr 2001-02
AGRICULTURE, FISHERIES AND FORESTRY¹										
Fishing industry research	7.5	8.5	9.2	10.4	11.3	11.2	12.1	13.1	12.8	13.2
Grains	15.7	21.2	23.3	21.3	29.1	33.8	33.6	31.9	34.0	32.0
Horticulture research	8.3	9.6	10.7	11.4	12.0	11.4	15.3	15.8	15.8	15.6
Meat research	22.9	22.1	25.1	22.6	21.1	22.8	21.4	20.2	20.2	20.2
Wool research	13.2	12.0	15.1	11.7	10.4	7.2	9.6	9.2	9.0	8.0
Other rural research	18.8	21.3	25.5	28.0	26.7	32.5	36.2	33.2	33.1	33.1
Land & Water Research	13.7	11.8	11.3	10.6	9.8	10.8	11.0	11.0	11.3	11.6
Rural Industries R&D Corporation	10.5	10.5	10.5	10.5	5.6	10.8	11.0	3.8	3.7	3.6
New Industries Development Program	-	-	-	-	-	-	-	1.0	1.0	6.1
COMMUNICATIONS, INFORMATION TECH & THE ARTS										
Information & Communication Industries Development	-	-	-	-	-	-	8.2	6.3	7.9	6.0
ICT Centre of Excellence	-	-	-	-	-	-	-	-	-	3.0
Building Information Technology Strengths – Incubators	-	-	-	-	-	-	-	19.5	6.0	34.8
Building Information Technology Strengths – Intelligent Island (Tas.)	-	-	-	-	-	-	-	20.0	-	20.0
ENVIRONMENT & HERITAGE										
Australian Biological Resources Study	2.3	2.3	2.0	1.8	1.3	1.0	1.4	2.0	1.6	1.6
Greenhouse research (NGRP)	6.0	5.8	6.0	6.0	3.5	3.6	3.1	4.0	3.8	4.1
Renewable Energy Equity Fund	-	-	-	-	-	-	-	0.0	2.8	3.1
Renewable Energy Commerc. Program	-	-	-	-	-	-	2.0	2.8	6.8	12.1
Energy research ²	11.6	11.0	11.1	11.8	6.6	20.6	1.5	-	-	-
EDUCATION, TRAINING & YOUTH AFFAIRS										
Research evaluation and Academies	2.0	2.0	2.1	2.1	2.2	2.0	2.5	2.3	2.4	2.4
Targeted Institutional Links Program	1.1	1.4	1.4	0.8	0.5	0.5	-	-	-	-
HEALTH & AGED CARE										
NH&MRC Research Grants ³	112.2	120.8	126.7	141.3	152.4	158.9	176.0	186.3	251.1	379.2
AIDS Research	10.5	11.6	12.1	12.1	11.7	12.0	12.0	-	-	-
Capital Works for Medical Institutes	10.0	10.0	13.0	9.6	2.0	2.7	5.7	-	-	-
INDUSTRY, SCIENCE & RESOURCES⁴										
R&D Start, COMET and related programs	-	-	-	-	56.4	91.2	129.2	156.8	155.1	160.2
Industry Innovation Program grants	43.5	40.3	45.6	50.4	-	-	-	-	-	-
Australian Technology Group Pty Ltd	30.0	-	-	-	-	-	-	-	-	-
Innovation Investment Fund	-	-	-	-	-	4.0	21.3	54.6	31.5	27.4
Pre-Seed Fund	-	-	-	-	-	-	-	-	-	5.9
Biotechnology Innovation Fund	-	-	-	-	-	-	-	-	-	12.7
Biotechnology Centre of Excellence	-	-	-	-	-	-	-	-	-	1.0
Biotechnology Australia	-	-	-	-	-	-	-	4.0	1.0	1.0
Technology Diffusion Program	-	-	-	-	-	-	14.9	18.2	19.9	17.5
International S&T Program	5.3	5.4	5.5	5.6	5.6	5.6	-	-	-	-
Technology Support Centres	-	-	3.9	12.2	7.2	13.7	-	-	-	-
National Research Facilities	-	-	-	6.4	17.0	20.9	10.7	4.8	4.9	3.5
National Space Program	5.4	5.4	9.0	2.7	1.7	0.5	1.5	-	-	-
Shipbuilding Innovation Scheme	-	-	-	-	-	-	-	5.5	9.5	10.1
Cooperative Research Centre Grants	45.3	90.6	103.7	132.7	143.1	146.9	142.3	137.5	139.8	142.5
Assistance under the Bounty ⁵ (Computers) Act 1984	75.0	78.0	74.8	64.1	56.5	19.5	58.6	-	-	-

(See continuation of Table 3 on the next page)

TABLE 3 Major R&D Granting Programs and other Support* for Science and Innovation through the Budget (\$m) (continued)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00 <i>accr</i>	2000-01 <i>est accr</i>	2001-02 <i>est accr</i>
TRANSPORT & REGIONAL SERVICES										
Payments to Austroads/ARRB										
Transport Research Ltd	2.2	2.2	2.2	2.2	2.0	2.0	2.0	2.0	1.4	1.4
TOTAL	473.0	503.9	549.6	588.4	595.6	646.1	743.2	765.8	786.5	992.9

SOURCE: Financial data have been provided and confirmed by the departments responsible for the programs as listed in the table.

* For the years up to 1998-99, the figures in the table represent cash outlays. From 1999-00, they represent accrued expenses funded by Government.

- (1) For consistency, the expenditure figures for Wool, Meat, Other Rural Research, Fish, Horticulture and Grains exclude that component of Commonwealth outlays funded from industry levies. The aggregate of outlays provided by way of industry levy or contribution is given in the following table:

INDUSTRY CONTRIBUTION (Rural Research Levies)

(estimated proportion of levies attributable to research purposes — \$m)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Total	95.52	96.97	96.84	115.49	132.05	137.77	123.51	134.71	139.84	138.26

- (2) For historical consistency, Budget expenditure for energy research previously supported through the former Department of Primary Industries and Energy has been co-located with subsequent energy initiatives within the responsibility of the Environment portfolio.
- (3) Includes funding for health and health services research grants, and from 1999-00 also includes AIDS research and the Medical Institutes.
- (4) Expenses attributable to the administration of programs are excluded from the data.
- (5) The Bounty scheme concluded in 1998-99. It provided assistance for local manufacturers of computer hardware, systems software and electronic microcircuits and covered design and development costs.

TABLE 4 Estimated Costs of Programs and Incentives Providing Support for Science and Innovation Outside the Budget (\$m)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	accr 1999-00	est accr 2000-01	est accr 2001-02
COMMUNICATIONS, INFORMATION TECHNOLOGY & THE ARTS										
Support from the Federation Fund										
- Commonwealth Technology Park	-	-	-	-	-	-	-	3.0	8.0	11.5
EDUCATION, TRAINING & YOUTH AFFAIRS										
<i>Higher Education Funding Act 1988:</i>										
- Science Lectureships	-	-	-	-	-	-	-	4.9	10.0	10.0
- Special research assistance ^{1,2}	260.0	292.0	306.3	346.4	396.5	420.4	451.2	442.9	-	-
- Funding for ANU Institute of Advanced Studies ³	145	146	147	150	152	151	151	151	-	-
- Estimated research & research training component sourced in the operating grant ⁴	794	858	924	1006	1062	1104	1135	1182	-	-
<i>Higher Education Funding Act 1988 (amended):</i>										
- Estimate of other funding sourced for research and research training ⁵	-	-	-	-	-	-	-	-	1546	1597
Australian Research Council ⁵	-	-	-	-	-	-	-	-	248	262
INDUSTRY, SCIENCE & RESOURCES										
Tax Concession ⁶ for industrial R&D ⁷	505	685	675	800	430	400	440	460	470	465
Support from the Federation Fund										
- National Marine Science Centre	-	-	-	-	-	-	-	6.0	2.0	4.0
- Institute of Molecular Bioscience	-	-	-	-	-	-	-	5.5	6.0	3.0
TOTAL	1704	1981	2052	2302	2040	2075	2177	2255	2290	2353

SOURCE: Financial data have been provided and confirmed by the departments responsible for the programs as listed in the table.

- (1) Pre 2000-01 arrangements under the Higher Education Funding Act (HEFA) for special research assistance included ARC and DETYA funding for research grants, fellowships, centres, postgraduate awards and infrastructure.
- (2) Until 1996-97, this item included funding for Advanced Engineering Centres that originally were separately funded under HEFA. From 1996 onwards, funding for the Centres was subsumed in the universities' operating grants. Funding for this element, approximately \$1.7 million per annum, ceased after calendar year 1999.
- (3) This item includes funds for research and research training provided to the Institute of Advanced Studies (IAS) of the Australian National University (ANU) through the ANU's operating grant. Funding for the John Curtin School of Medical Research of the ANU was transferred to the Health Portfolio in 1992, returning to the portfolio in 1997-98, but is included in the estimate from 1992-93 to 1996-97 for comparative purposes. From 2001-02 onwards, new arrangements will be introduced to allow the IAS to make contributions from its block fund to gain access to the competitive and formula-driven research schemes of DETYA, the ARC and the NH&MRC. The data for 2000-01 and 2001-02 are now subsumed in the item 'Estimate of other funding sourced for research and research training'.
- (4) This represents an estimate of the research funding sourced by universities from the operating grant. The methodology for estimating research and research training changed in 1993-94, due to changes in Australian Bureau of Statistics (ABS) data collection introduced in ABS's Research and Experimental Development - Higher Education Organisations 1994 (8111.0). Prior methodology used estimates for 1984-85, 1986-88, 1988-89, 1990-91 and 1992-93 based on ABS R&D surveys in the calendar year in which each of these financial years commences. From 1993-94 onwards, the estimate is based on the ABS survey of research expenditure of universities by source of funds. One of the sources identified by the ABS is General University Funds (GUF). The universities' operating grant is the major component of GUF, and can be estimated by using the operating revenue figures from DETYA's Selected Higher Education Finance Statistics. A research and research training component of the operating grant can then be calculated by applying the same proportion of GUF attributable to the operating grant, to the R&D funds sourced from GUF (this latter is obtainable from ABS Higher Education R&D surveys for 1994, 1995, 1996 and 1998). For example, the estimate for 1993-94 is based on 1994 data; with adjustment for 1993. Estimates for 1998-99 onwards are based on 1998 ABS data, using projections of the non-capital unified system operating grant for subsequent years.
- (5) The 'Estimate of other funding ...' estimates all funding sourced from HEFA, following the reforms announced in Knowledge and Innovation: a policy statement on research and research training in 1999 and the subsequent increases in research funding announced in Backing Australia's Ability. It includes the Research Training Scheme and all other non-ARC special research assistance, funding for the IAS of the ANU (\$154 million in 2000-01) and an estimate of all other research funding sourced by universities from the operating grant. During 2001, ARC special research assistance funding will be transferred from HEFA to the Australian Research Council Act 2001.
- (6) The data series in Table 4 are based on estimates of revenue forgone as published in the Taxation Expenditures Statement 2000 (TES) and earlier issues. Since the policy rationale for the tax concession scheme is to increase business expenditure on R&D, the data in the table are estimates relating to the year when companies undertake the R&D for which they subsequently claim the concession — that is, they are the estimated cost to revenue that would have occurred if companies had claimed the tax concession in the same financial year in which the R&D expenditure was incurred. This means that data published in the TES are lagged by one year with respect to the data presented in the table. However, note that a further amount of \$25m has been added to 2001-02 as a result of the introduction of a premium rate of 175% in 2001-02. (See Backing Australia's Ability.) The estimates in Table 4 are revised as more information becomes available through publication in issues of the TES.
- (7) Note that the small decrease estimated for 2001-02 is expected to be substantially exceeded by greater business investment in R&D resulting from the cut in the corporate tax rate from 34 to 30 cents coupled with stimulation of venture capital investment through the halving of the tax on capital gains.

TABLE 5 Thematic Priorities of Commonwealth Support for Science and Innovation through the Budget and Other Measures

THEMATIC PRIORITIES	1994-95	1995-96	1996-97	1997-98	1998-99	<i>est cash*</i>	<i>accr</i>	<i>est accr</i>	<i>est accr</i>	%Total	%GDP
						1999-00	1999-00	2000-01	2001-02		
Primary products	286.3	279.5	278.0	299.0	313.9	307.4	339.3	339.4	344.5	7.3	0.049
Industrial development	876.8	982.7	691.2	687.2	812.6	887.2	933.0	899.2	976.4	20.8	0.139
Energy	109.4	120.7	84.3	100.5	81.9	84.3	97.2	122.6	137.2	2.9	0.020
Transport & telecommunications	34.9	48.8	34.0	35.0	36.0	37.5	43.6	43.0	45.8	1.0	0.007
Urban and rural planning	0.8	1.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.0	0.000
Prevention of pollution	68.9	56.8	52.5	57.3	58.7	62.1	72.8	75.1	74.9	1.6	0.011
Identification & treatment of pollution	36.2	37.7	31.9	32.5	39.2	42.5	50.3	62.8	66.9	1.4	0.010
Health	209.2	225.2	219.9	231.5	259.2	250.1	256.8	333.0	466.5	9.9	0.067
Social development & services	14.2	11.6	10.3	10.8	12.3	12.8	15.2	15.1	15.2	0.3	0.002
Mining, earth & atmosphere	129.9	129.5	188.7	158.8	140.1	136.4	160.1	162.9	166.2	3.5	0.024
Advancement of Knowledge	1497.8	1629.2	1740.4	1814.8	1873.2	1892.4	1971.3	2024.2	2098.2	44.7	0.299
Defence	277.5	291.5	276.8	266.2	266.3	272.9	287.7	306.6	302.9	6.5	0.043
TOTAL	3542	3814	3608	3694	3893	3986	4228	4384	4695	100	0.670

SOURCE: Derived from the detailed items listed in Tables 2, 3 and 4 by the allocation of agency or program outlays or accruals to broad socio-economic objective (SEO) categories in accordance with general OECD practice for "government budget appropriations on R&D" (GBAORD). The categories are consistent with aggregated groups of the Australian Standard Research Classification (1993 edition). It should be noted that individual items cannot be allocated to SEO categories with precision corresponding to that achieved through the R&D surveys of the Australian Bureau of Statistics (ABS). In general, single items are allocated to a single broad category. The outlays of CSIRO and those for the CRC Program are, however, split between a number of categories according to available information, while amounts attributable to the IR&D tax concession are distributed pro rata in accordance with the distribution of business R&D expenditure by SEO as available in the most recent ABS R&D survey data.

* Estimated to approximate cash accounting expenditure of earlier years.