



Australian Academy of Science

SUMMARY OF THE 2015-16 FEDERAL BUDGET: SCIENCE, RESEARCH, INNOVATION AND HIGHER EDUCATION

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Summary of the 2015-16 federal Budget – science, research, innovation and higher education

Part one – summary and commentary of the major funding announcements by Professor Les Field, Secretary Science Policy, Australian Academy of Science

Part two – analysis of the forward estimates (four year spending plans), with comparisons to previous federal Budgets

Comments on this document should be sent to science.policy@science.org.au

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1 Part one - major funding announcements in the 2015-16 federal Budget

The following is a summary and commentary of the major funding announcements in the 2015-16 federal Budget by Professor Les Field, Secretary Science Policy, Australian Academy of Science.

1.1 Government science portfolio agencies and organisations

Australian Nuclear Science and Technology Organisation

To assist with the cost of processing existing radioactive waste an additional \$22.3 million will be provided to ANSTO over three years from 2015-16.

Australian Synchrotron

An allocation of \$20.5 million in 2016-17 to ANSTO has been made to meet part of the \$30.0 million cost of operating the Australian Synchrotron in 2016-17. This is made up of an additional \$13 million expenditure and reallocation of \$7.5 million from other sources.

Commonwealth Scientific Industrial Research Organisation

There are no significant change in the forward estimates however the significant savings projected in last year's budget are still forecast in the forward estimates so the trajectory set in the 2014 budget remains.

Defence Science Technology Organisation

There is no significant change until 2017-18 when there will be a reduction of \$23 million.

Geoscience Australia

There is no significant change over the forward estimates

Australian Institute of Marine Science

There is no significant change over the forward estimates

1.2 Research Council funding

National Health and Medical Research Council

There is no significant change in the forward estimates.

Australian Research Council – total grant funding programs

There are no significant change in the forward estimates.

Australian Research Council – Future Fellowships

While there was no announcement within the Budget, the Minister for Education has since announced that there will be a reduced round of 50 Future Fellowships in the coming year. My reading is that there is a strong desire to support the Future Fellowships into the future (hopefully back to the level that restores the capacity that has been eroded over recent years) but that this will depend on finding additional revenue or offsets to support the scheme.

1.3 University funding

University research block grants

The Sustainable Research Excellence component of the university block grant will be cut by \$260 million over the forward estimates (and by \$150 million in 2016-17 alone) to fund support for NCRIS. This is a significant cut to the research block grant to universities which directly supports the research effort of each University. It will impact mostly on the larger research intensive Group of

Eight universities who receive the most significant share of the Sustainable Research Excellence block grant.

University teaching block grants

While there is no immediate change to the operating grants for Universities, the forward estimates still contain a 20% reduction in support for universities coupled to a deregulation of the sector. This dramatic change to the funding model for universities still hangs over the sector and there is a clear signal that the government still intends to pursue its deregulation agenda.

1.4 Other science funding programmes

NCRIS

Funding of \$150 million had already been provided for 2015-16, and the Government will now provide an additional \$150 million in 2016-17. This ensures there will be a further two years of support for NCRIS facilities. The elephant that is still in-the-room is how to bring longer term sustainability to support for big infrastructure. We do need to find a way to support big initiatives that have a lifetime of decades and can't really be run effectively on 2-year stop-start funding cycles. A review of the NCRIS program is underway and is expected to make long-term funding recommendations. The review is expected to report in August 2015.

Medical Research Future Fund (MRFF)

The Government continues with plans to establish a \$20 billion fund, the capital of which will be reserved and investment returns used to fund research. Disbursements over the next four years are expected to be \$10 million in 2015-16, \$53 million in 2016-17, \$130 million in 2017-18 and \$224 million in 2018-19, which will mean more than \$400 million is expected to be provided to researchers over the forward estimates.

This is a very positive step towards boosting investment in medical research in Australia and a commitment to making this a sustainable future fund over time. The controversial link between funding for the MRFF being linked to the Medicare co-payment has been removed. Instead funding for the MRFF will come from other savings in the health budget.

Cooperative Research Centres

A further \$26.8 million in savings over four years from 2015-16 have been identified. Since the budget the review of the CRC programme ("the Miles Review") has reported recommending that the programme continue.

Square Kilometre Array Radio Telescope

There was no announcement within the Budget and funding is set to end at the end of 2015/16. This now stands as another piece of major research infrastructure whose long term future is uncertain.

Australian Astronomical Observatory

There is a slight reduction in funding over the forward estimates

Stawell Underground Physics Laboratory

The Stawell Underground Physics laboratory (SUPL) received a boost with the announcement of \$1.75 million from the National Stronger Regions Fund.

Australia-China/India Fund

These funds will continue over the forward estimate period

Rural Research and Development Corporations

There is no significant change over the forward estimates

Australian Consensus Centre

As already announced \$4.0 million will be provided over four years from 2014-15 to establish the Australian Consensus Centre. This Centre is still looking for a home given that the University of Western Australia announced that it would not be housed on their campus.

Antarctic science

An additional \$9.4 million will be provided in 2015-16 to maintain functions that support Australia's presence in Antarctica.

Tropical health

An additional \$15.3 million will be provided over the next four years to invest in research into exotic disease threats to Australia and the region. This will include \$8.5 million for the Australian Tropical Medicine Commercialisation Grants Programme and \$6.8 million to the NHMRC to build capacity in tropical disease research.

Entrepreneurs' Infrastructure Program

The Government will make savings of \$27.3 million over five years from 2014-15 to Entrepreneur's Infrastructure Program.

Industry grant programs

Further savings of \$31.7 million from Commercialisation Australia, Enterprise Connect and the Industry Innovation Precincts. These programs were already closed to new applicants so this appears to be the decreasing pipeline of programs that were already funded.

The Conversation

Funding for *The Conversation* which is an on-line media organisation promoting debate on a wide range of topics has not been renewed. The conversation has proved to be valuable forum in which issues can be aired and discussed rapidly and openly.

2 Part two - analysis of the forward estimates with comparisons to the previous federal Budget

Part two of this document analyses the impact of the federal Budget on the large science agencies, and the most significant science funding programs. This section makes direct comparisons between the science expenditure plans as set out in the 2015-16 Budget with the 2014-15 Budget.

Where the term 'forward estimate period' or 'forward estimates' is used, this refers to the three years from 2016-17 to 2018-19

2.1 Investment in Higher Education (university block research grants)

This program covers the main investments in research for Higher Education providers, and is delivered through the *Higher Education Support Act* (2003)¹. The program includes:

- Research Training Scheme
- Joint Research Engagement Program
- Research Infrastructure Block Grants
- Sustainable Research Excellence in universities
- International Postgraduate Research Scholarship Scheme
- The Australian Postgraduate Awards

Funding for 2015-16 will be slightly higher than forecast in last year's Budget, but the Government has announced that savings will be made from the Sustainable Research Excellence in universities funding stream in 2016-17 to 2018-19. These savings will be used to fund the National Collaborative Research Infrastructure Strategy (see Part one). The Budget papers indicate that the impact of this measure will be savings of \$262.5 million to be achieved between 2016-17 and 2018-19.

This is not the first time this program has been the subject of savings measures. In the final Budget of the previous Labor Government this scheme was targeted and funding redirected to pay for the Gonski school education reforms. The impact of both the NCRIS and Gonski funding measures on the Sustainable Research Excellence in universities program can be seen in table one. The combined support of all the Investment in Higher Education (university block research grants) is shown in table two.

Table 1 Sustainable Research Excellence in Universities - funding allocations between 2014-15 and 2018-19 as set out in the last four federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget		185 417 ^a	238 732 ^b	137 142 ^c	255 677 ^c	225 249 ^c
2014-15 Budget		185 417 ^b	239 433 ^c	288 985 ^c	295 340 ^c	
2013-14 Budget		186 910 ^c	244 559 ^c	297 603 ^c		
2012-13 Budget		345 841 ^c	357 605 ^c			
Difference 14-15 Budget and 15-16 Budget		0	-701	-151 843	-39 663	

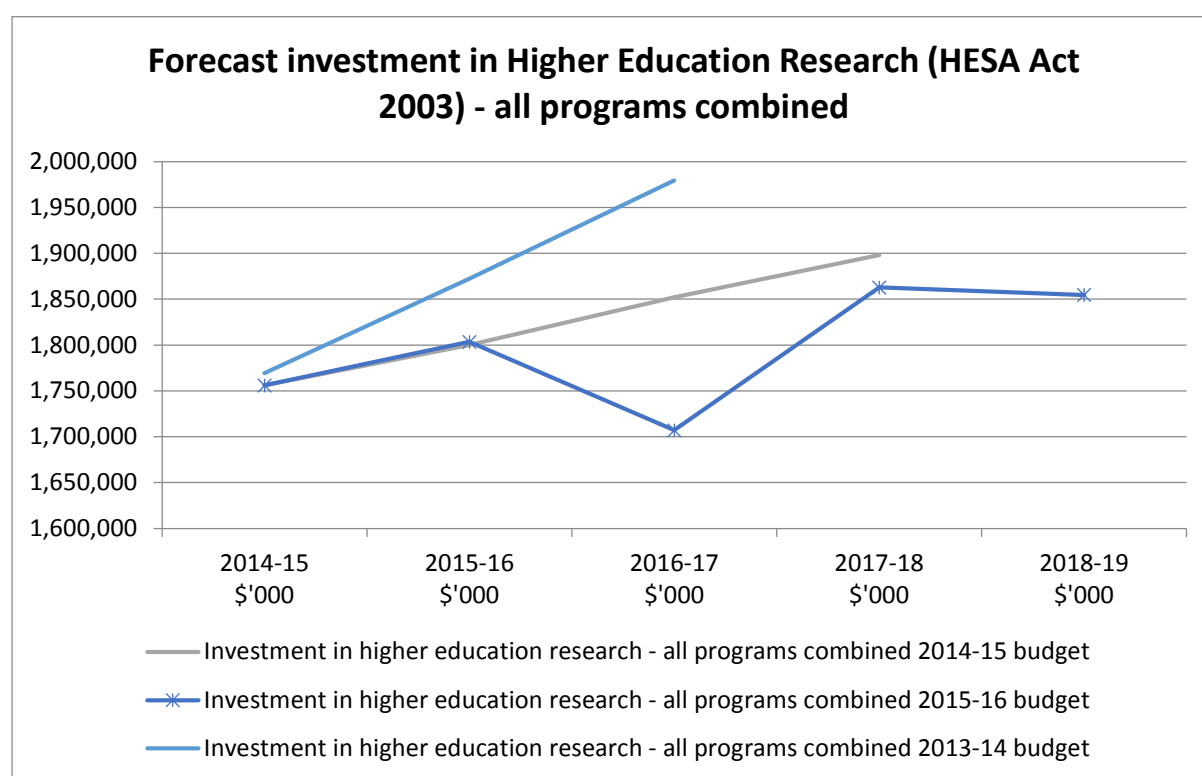
^aEstimated actual; ^bBudgeted amount; ^cForward estimate

¹ Further information on how the block grants are calculated and the programs they support is available at: <https://education.gov.au/research-block-grants>

Table 2 Comparison of funding allocations for higher education research block grants in the 2014-15 and 2015-16 federal Budgets

Budget Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget	1 755 928 ^a	1 803 439 ^b	1 707 057 ^c	1 862 821 ^c	1 854 582 ^c
2014-15 Budget	1 755 928 ^b	1 799 915 ^c	1 852 086 ^c	1 898 223 ^c	
Difference 14-15 budget and 15-16 budget	0	3 524	-145 029	-35 402	
Percentage change on previous year (15-16 Budget)		2.71	-5.34	9.12	-0.44
Percentage change in support between 14-15 and 15-16 federal Budget	0.00	0.20	-7.83	-1.87	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



2.2 Australian Research Council

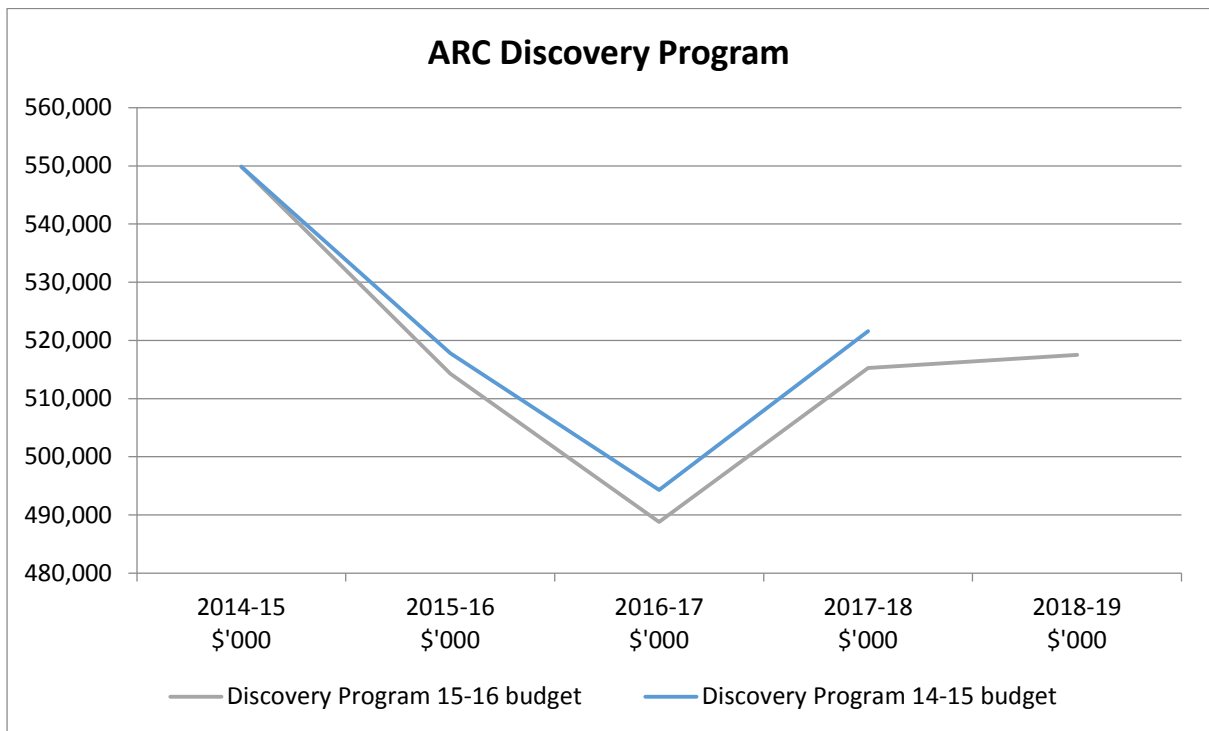
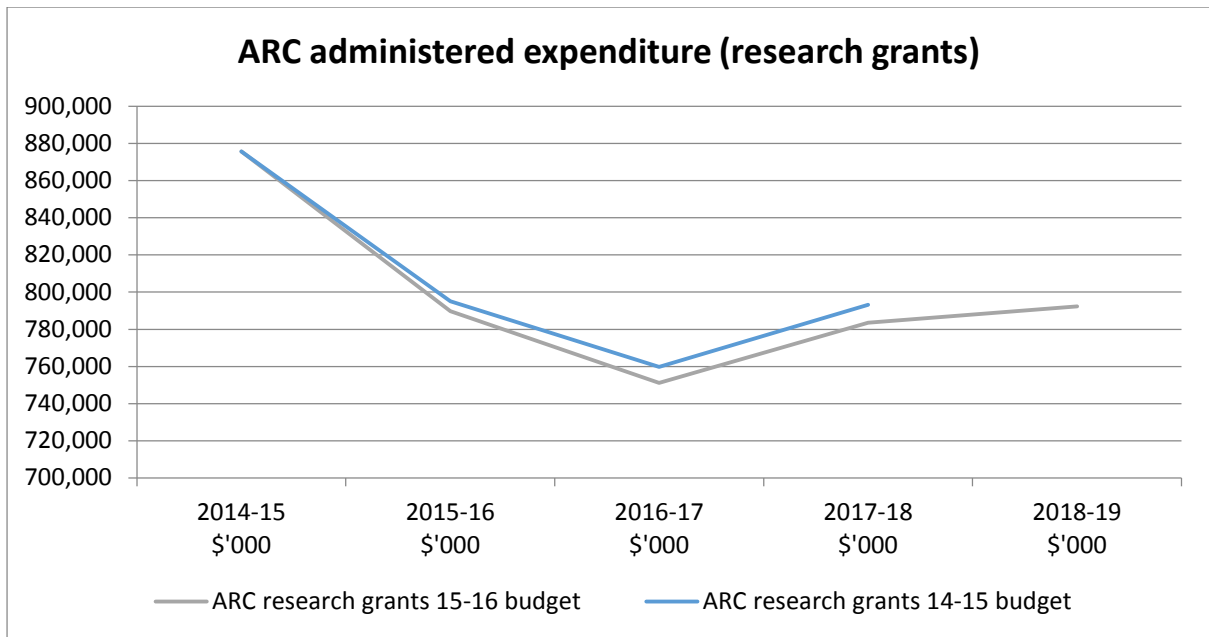
There were no new measures announced at the Budget affecting the ARC. The previously announced funding reductions for the ARC remain in place, with the Linkage Program taking the greater share of funding reductions.

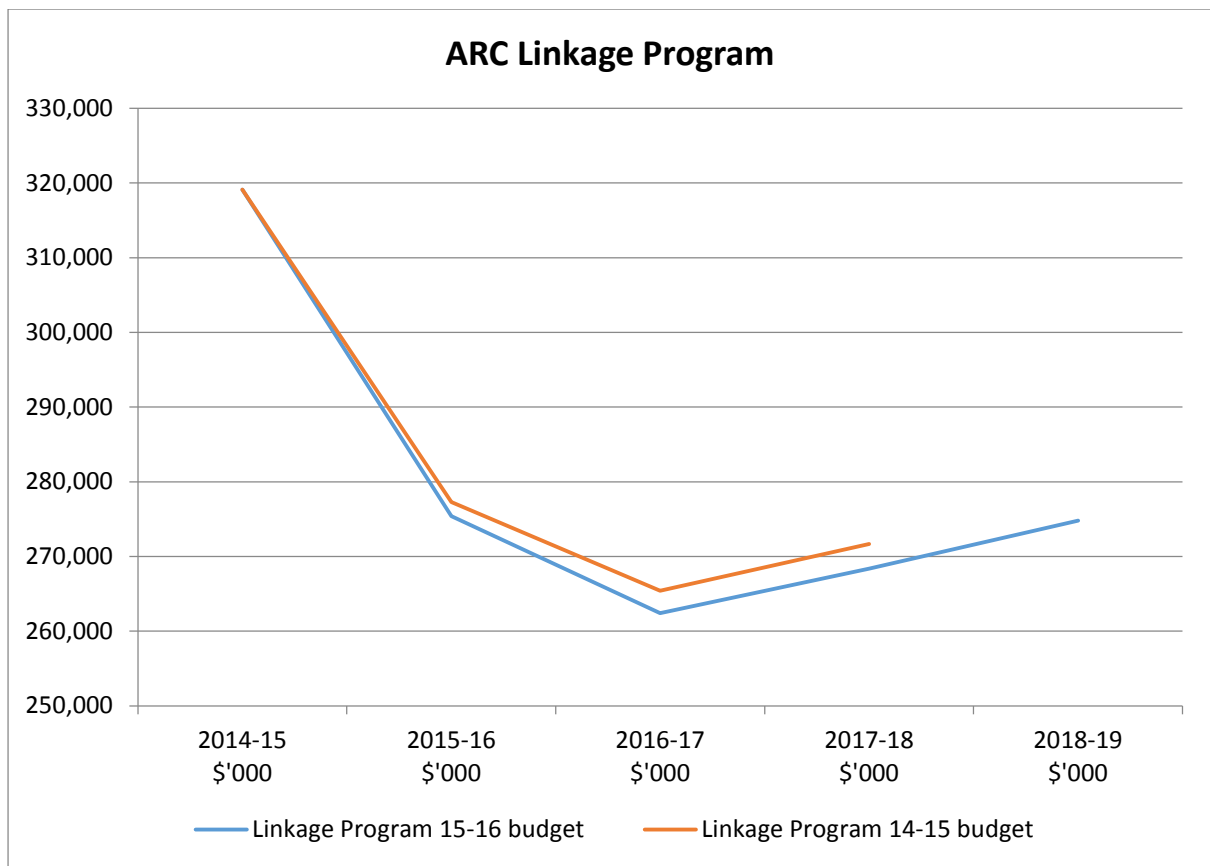
In the 2014-15 Budget the Government had announced that it would make the Future Fellowship scheme an ongoing program with 100 fellowships per year. However since that Budget there has been no round of new fellowships and the future of the program was uncertain when the Government linked it to the passage of its Higher Education Deregulation agenda. The day after the 2015-16 Budget the Minister for Education announced that there would be a smaller 2015 round of 50 Future Fellowships.

Table 3 Comparison of funding allocations for the ARC in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
Discovery Program 15-16 Budget		549 879 ^a	514 269 ^b	488 792 ^c	515 239 ^c	517 498 ^c
Discovery Program 14-15 Budget		549 879 ^b	517 807 ^c	494 325 ^c	521 580 ^c	
Linkage Program 15-16 Budget		319 096 ^a	275 390 ^b	262 431 ^c	268 368 ^c	274 809 ^c
Linkage Program 14-15 Budget		319 096 ^b	277 285 ^c	265 402 ^c	271 671 ^c	
ARC research support 15-16 Budget		875 642 ^a	789 659 ^b	751 223 ^c	783 607 ^c	792 307 ^c
ARC research support 14-15 Budget		875 642 ^b	795 092 ^c	759 727 ^c	793 251 ^c	
Difference in research support between 14-15 and 15-16 Budget forecasts		0	-5 433	-8 504	-9 644	
Percentage annual forecast growth in ARC research support 15-16			-10.89	-5.12	4.13	1.10
Percentage change in research support between 14-15 and 15-16 federal Budget		0.00	-0.68	-1.12	-1.22	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate





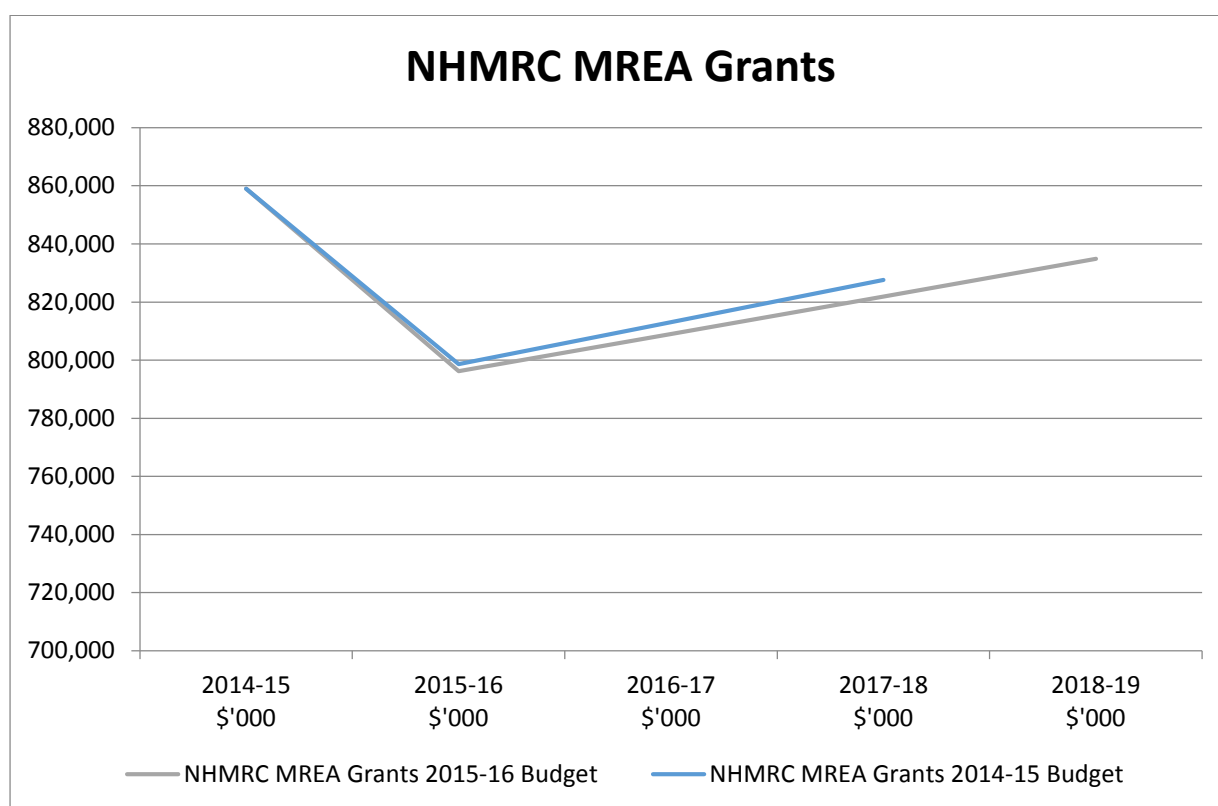
2.3 National Health and Medical Research Council

There were no significant changes to the NHMRC projected budget. The apparent 7% decrease in funding this year can be explained by the Government returning additional funds in 2014-15 following an accounting measure used by the previous government at the 2013-14 Budget. The forward estimates show that there will be moderate growth in NHMRC funding over the coming years.

Table 4 Comparison of NHMRC MREA grants in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
NHMRC MREA Grants 2015-16 Budget		859 026 ^a	796 265 ^b	809 005 ^c	821 865 ^c	834 935 ^c
NHMRC MREA Grants 2014-15 Budget		859 026 ^b	798 652 ^c	813 026 ^c	827 662 ^c	
Difference between budget forecasts (15-16 Budget)		0	-2 387	-4 021	-5 797	
Percentage growth on previous year (15-16 Budget)			-7.31	1.60	1.59	1.59
Percentage change in NHMRC MREA Grants between 14-15 and 15-16 federal Budget		0.00	-0.30	-0.49	-0.70	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



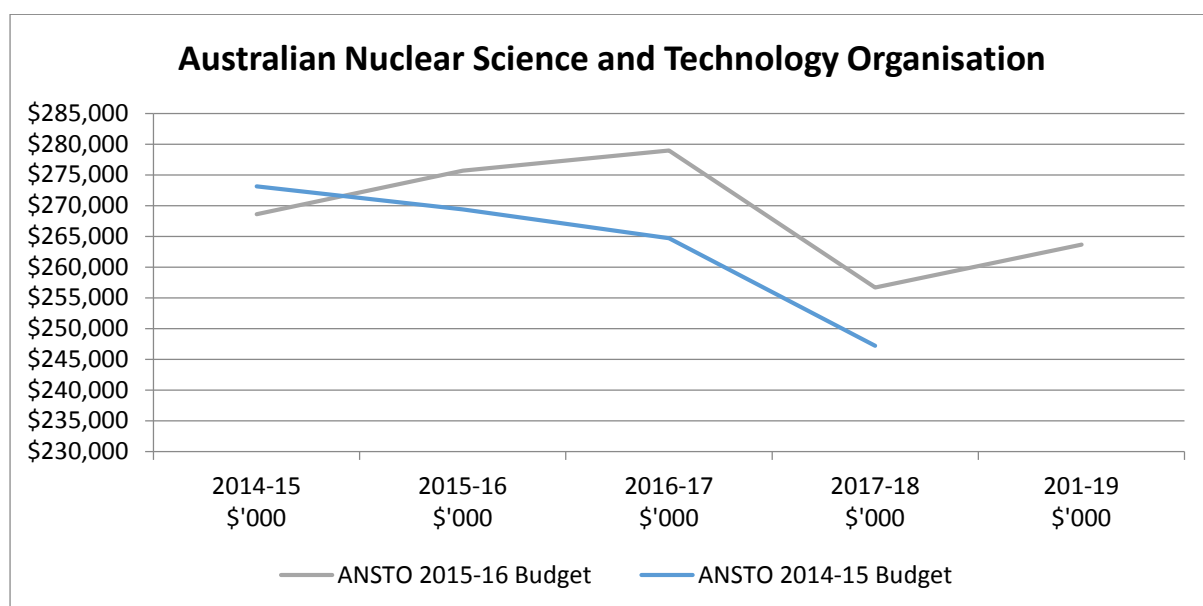
2.4 Australian Nuclear Science and Technology Organisation

To help assist with the cost of processing existing radioactive waste an additional \$22.3 million will be provided to the Australian Nuclear Science and Technology Organisation over three years from 2015-16.

Table 5 Comparison of funding allocations for the Australian Nuclear Science and Technology Organisation in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
ANSTO 2015-16 Budget		268 627 ^a	275 684 ^b	278 960 ^c	256 684 ^c	263 674 ^c
ANSTO 2014-15 Budget		273 113 ^b	269 375 ^c	264 712 ^c	247 219 ^c	
Difference between 14-15 and 15-16 budget forecasts		-4 486	6 309	14 248	9 465	
Percentage change on previous year (15-16 Budget)			2.63	1.19	-7.99	2.72
Percentage change in research support between 14-15 and 15-16 federal Budget		-1.64	2.34	5.38	3.83	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



2.5 Commonwealth Scientific and Industrial Research Organisation

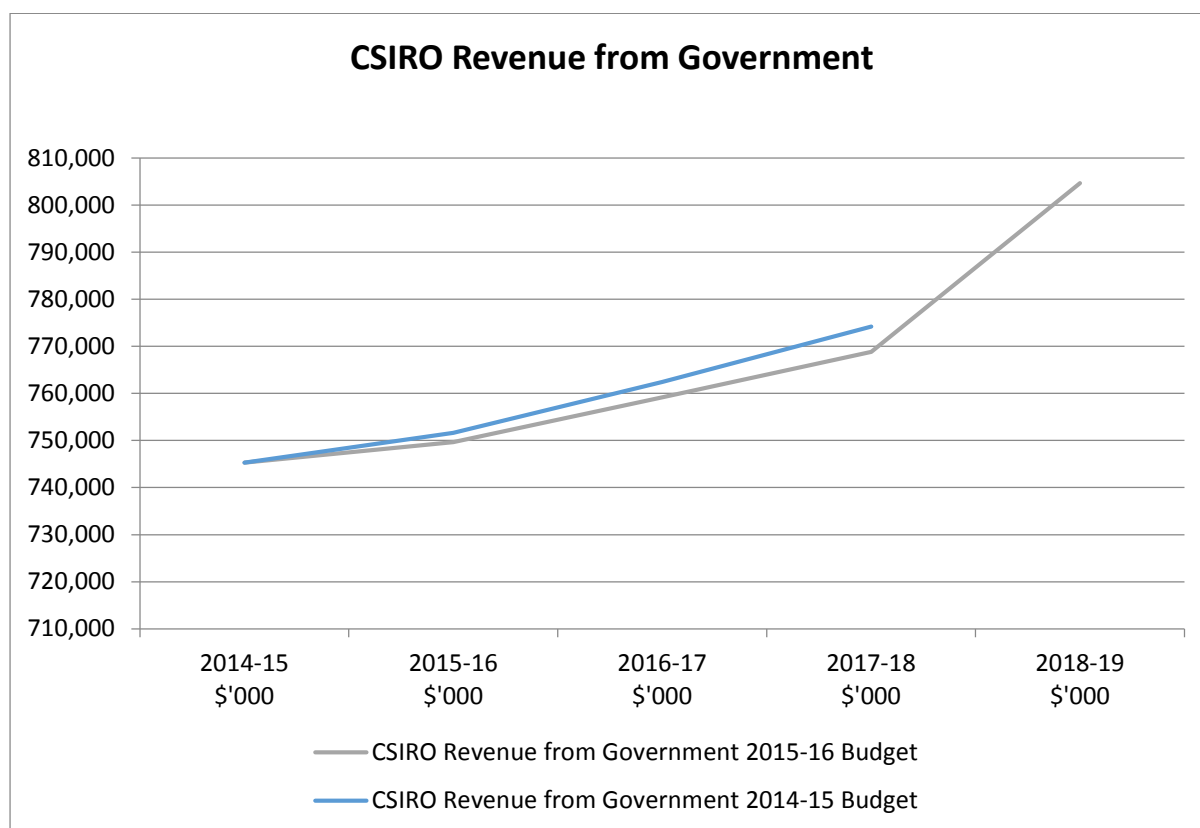
The previous budget saw Government reduce research support for CSIRO by \$146.8 million. This year's budget was broadly in line with the forecasts last year, and there will be no further cuts to CSIRO. Of note is the 4.65% annual increase in government support is forecast for 2018-19.

Approximately 60% of CSIRO's revenue comes from government contributions and about 40% from the sale of goods and services. The following table and chart represent the government's contribution.

Table 6 Comparison of CSIRO revenue from the Australian Government in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget		745 268 ^a	749 681 ^b	759 147 ^c	768 847 ^c	804 633 ^c
2014-15 Budget		745 268 ^b	751 616 ^c	762 419 ^c	774 164 ^c	
Difference between budget forecasts (15-16 Budget)		0	-1 935	-3 272	-5 317	
Percentage growth on previous year (15-16 Budget)			0.59	1.26	1.28	4.65
Percentage change in research support between 14-15 and 15-16 federal Budget		0.00	-0.26	-0.43	-0.69	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



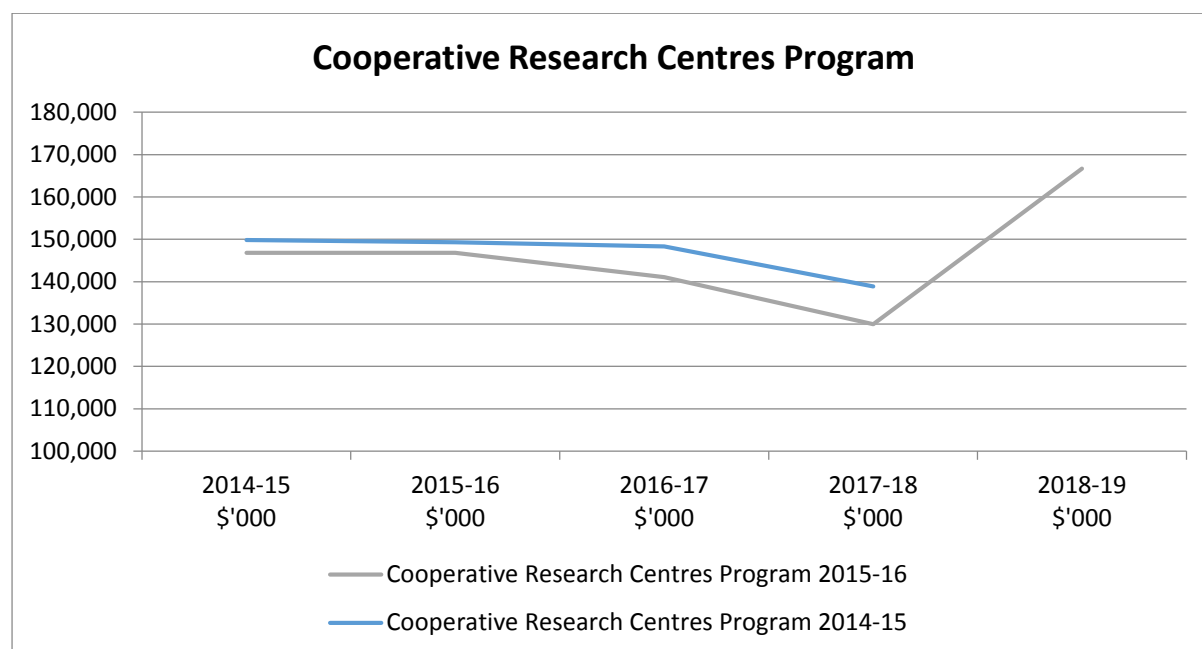
2.6 Cooperative Research Centres Program

In the previous Budget the Government announced that the 2014 round of funding for new applicants was cancelled, and that subsequent rounds were on hold pending a review of the scheme. The review is currently underway and is expected to report soon. In this year's budget it was announced that a further \$26.8 million would be removed from the program over the next four years.

Table 7 Comparison of funding allocations for the Cooperative Research Centres Program in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget		146 828 ^a	146 848 ^b	141 059 ^c	130 005 ^c	166 719 ^c
2014-15 Budget		149 828 ^b	149 291 ^c	148 353 ^c	138 900 ^c	
Difference between Budget forecasts (15-16 Budget)		-3 000	-2 443	-7 294	-8 895	
Percentage growth on previous year (15-16 Budget)			0.01	-3.94	-7.84	28.24
Percentage change in research support between 14-15 and 15-16 federal Budget		-2.00	-1.64	-4.92	-6.40	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



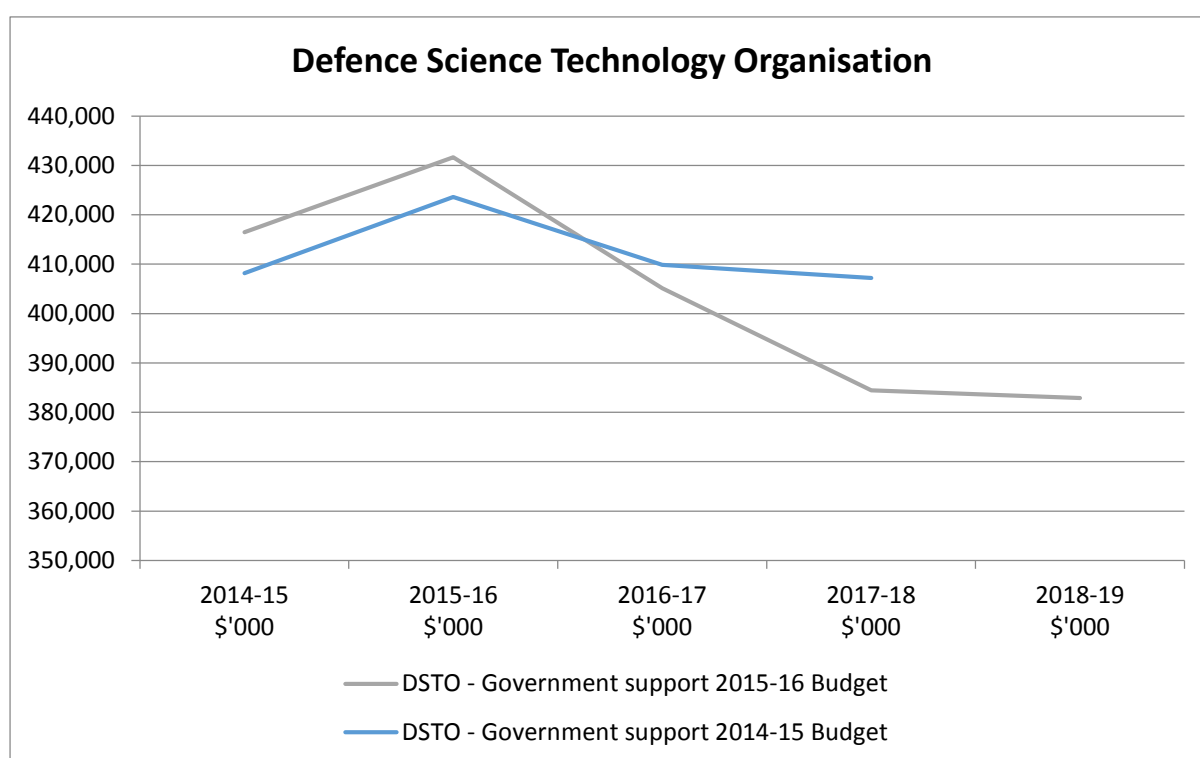
2.7 Defence Science Technology Organisation

There will be a 3.65% increase in DSTO's budget this year, but will then fall year on year, with decreases in 2016-17 (6.14%) and 2017-18 (5.12%), before stabilising in 2018-19.

Table 8 Comparison of Government support for DSTO in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget		416 455 ^a	431 649 ^b	405 141	384 414 ^c	382 913 ^c
2014-15 Budget		408 191 ^b	423 613 ^v	409 871 ^c	407 197 ^c	
Difference between budget forecasts (15-16 Budget)		8 264	8 036	-4 730	-22 783	
Percentage growth on previous year (15-16 Budget)			3.65	-6.14	-5.12	-0.39
Percentage change DSTO expenditure between 14-15 and 15-16 federal Budget		2.02	1.90	-1.15	-5.60	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



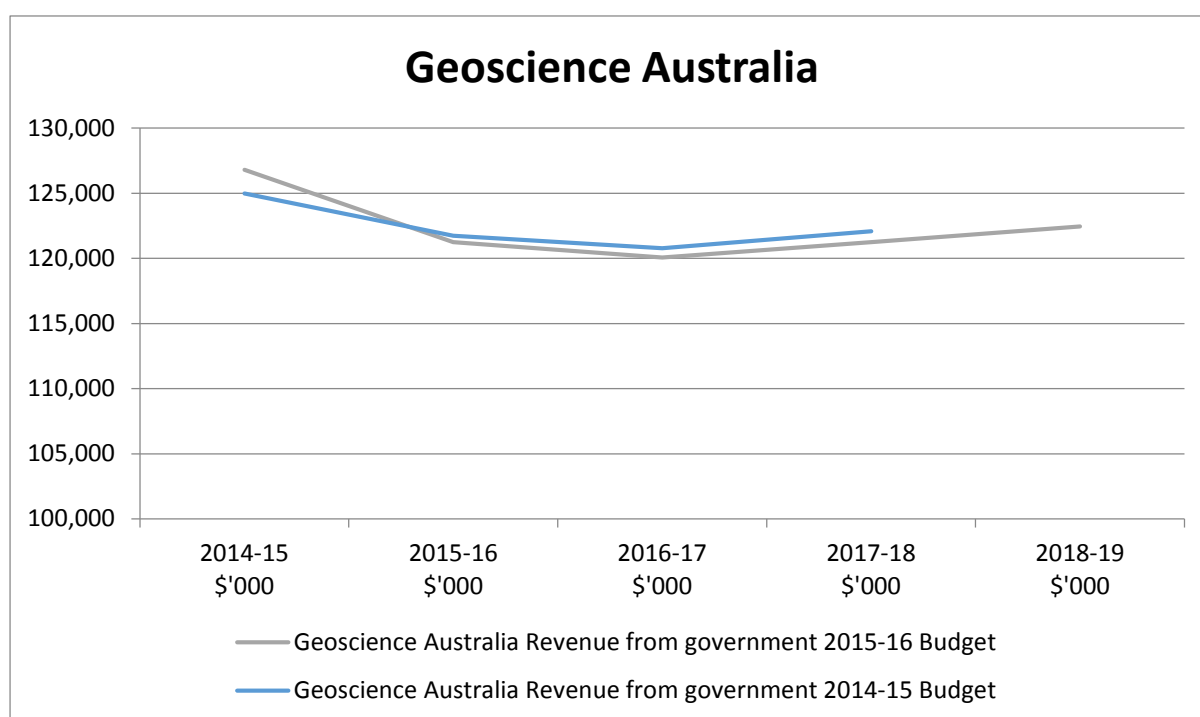
2.8 Geoscience Australia

There are no significant changes to Geoscience Australia's budget compared to last year but the anticipated reduction forecast at the previous budget will take place, and revenue will be reduced by 4.37% in 2015-16.

Table 9 Comparison of government revenue for Geoscience Australia in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget		126 805 ^a	121 258 ^b	120 076 ^c	121 252 ^c	122 440 ^c
2014-15 Budget		124 976 ^b	121 735 ^c	120 786 ^c	122 088 ^c	
Difference between budget forecasts (15-16 Budget)		1 829	-477	-710	-836	
Percentage growth on previous year (15-16 Budget)			-4.37	-0.97	0.98	0.98
Percentage change Geoscience Australia expenditure between 14-15 and 15-16 federal Budget		1.46	-0.39	-0.59	-0.68	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



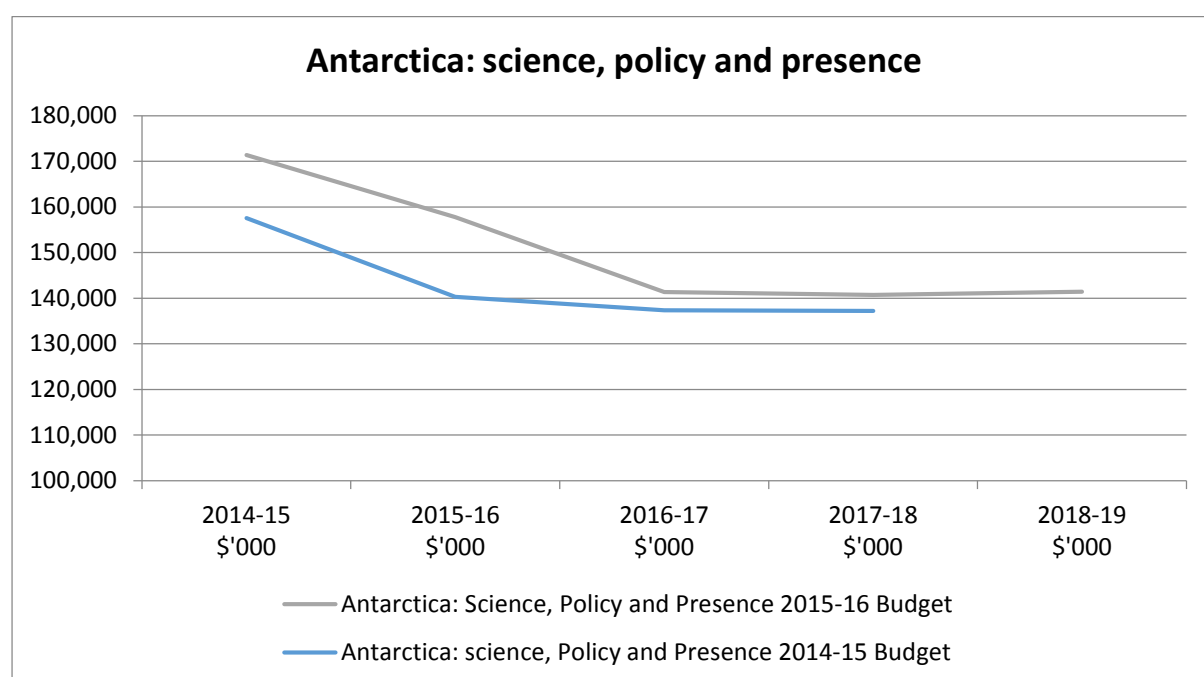
2.9 Antarctica: Science, Policy and Presence

The government announced that there would be an additional \$9.4 million provided in this year's budget for Australia's Antarctic program. However last year steep cuts were placed on the Antarctic program, and despite the additional funds this year overall programme expenses are set to fall by 7.98% this year, and 10.39% next year.

Table 10 Antarctica: science, policy and presence program support in the 2014-15 and 2015-16 federal Budgets

Budget	Allocation	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget		171 416 ^a	157 739 ^b	141 350 ^c	140 745 ^c	141 417 ^c
2014-15 Budget		157 563 ^b	140 295 ^c	137 338 ^c	137 191 ^c	
Difference between budget forecasts (15-16 Budget)		13 853	17 444	4 012	3 554	
Percentage growth on previous year (15-16 Budget)			-7.98	-10.39	-0.43	0.48
Percentage change expenditure between 14-15 and 15-16 federal Budget		8.79	12.43	2.92	2.59	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate



2.10 Australian Institute of Marine Science

There were no new measures affecting the Australian Institute of Marine Science and forecast support from government is in line with the previous Budget.

Table 111 Australian Institute of Marine Science revenue from government in the 2014-15 and 2015-16 federal Budgets

	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget	38 796 ^a	40 483 ^b	41 529 ^c	42 127 ^c	44 701 ^c
2014-15 Budget	38 796 ^b	40 579 ^c	41 694 ^c	42 396 ^c	
Difference between 14-15 and 15-16 Budget forecasts (15-16 Budget)	0	-96	-165	-269	
Percentage growth on previous year (15-16 Budget)		4.35	2.58	1.44	6.11
Percentage change in research support between 14-15 and 15-16 federal Budget	0.00	-0.24	-0.40	-0.63	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate

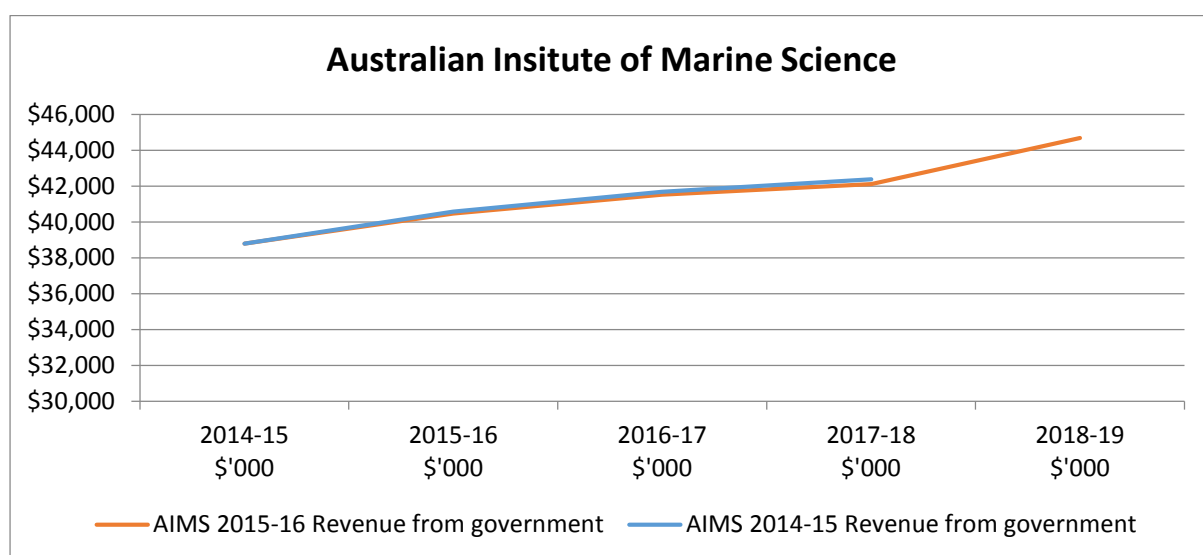


Table 12 Comparison of government revenue for the Australian Institute of Marine Science in the 2014-15 and 2015-16 federal Budgets

2.11 Medical Research Future Fund

At the 2014-15 Budget the Government announced that it would establish a Medical research Future Fund. This would be allowed to build up \$20 billion in capital which would be preserved in perpetuity, and then disbursements made each year to fund medical research. The establishment of the fund was originally linked to the proposed Medicare GP co-payment. The Government has since removed this link and put forward alternative measures from which savings will be made and redirected into the fund.

Table 13 Anticipated project payments from the Medical Research Future Fund set out in the 2014-15 and 2015-16 federal Budget

	2014-15 \$'000	2015-16 \$'000	2016-17 \$'000	2017-18 \$'000	2018-19 \$'000
2015-16 Budget	0 ^a	10 000 ^b	53 232 ^c	130 340 ^c	224 258 ^c
2014-15 Budget	540 ^b	21 999 ^c	81 849 ^c	187 225 ^c	
Difference between budget forecasts (15-16 Budget)	-540	-11 999	-28 617	-56 885	

^aEstimated actual; ^bBudgeted amount; ^cForward estimate

